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An investigation of stereotypes held by college men and women of selected occupational fields for men—primarily business, industrial, and professional. Samples were drawn of the male and/or female populations in three private liberal arts colleges in the Northeast (two men's colleges and one women's college) and one large Northeastern State university.

A high degree of uniformity was found in the stereotypes held by the students, regardless of sex, type of institution, year in college, socioeconomic status, or family occupational setting. The stereotypes held correlated highly with the perceived desirability of each of the occupational fields as a career choice for men.

Implications of the findings suggest that the college guidance counselor has a complex task in helping a student thread his way through a maze of limiting stereotypes that may have closed some rewarding occupational fields from his view.

Illustrations are given of the questionnaire used and procedures followed. Literature relevant to the investigation is briefly surveyed and a bibliography of 50 titles appended.

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COLLEGE STUDENT IMAGES OF A SELECTED GROUP OF PROFESSIONS AND OCCUPATIONS

COOPERATIVE RESEARCH BRANCH
OFFICE OF EDUCATION
U. S. DEPARTMENT OF H.E.W.
WASHINGTON 25, D. C.

Cooperative Research Project No. 562 (8142)

Donald D. O'Dowd and David C. Beardslee

Wesleyan University

Middletown, Connecticut

April 1960

The research reported herein was performed pursuant to a contract with the United States Office of Education, Department of Health, Education, and Welfare.

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It is entirely fitting that the research summarized in this report was conducted as a Cooperative Research Project. A number of people and agencies gave generously of their time and resources to make this study possible. The initial pilot studies and data collection that preceded the main research were conducted with the aid of funds granted by the Wesleyan University Research Committee. The Office of Education, in collaboration with Wesleyan University, sponsored the large-scale data gathering and analysis that are drawn upon in this report. The Connecticut General Insurance Company very generously provided the use of business machines, permitting considerable analysis of data beyond that envisaged in the original budgeting of the study. Three other organizations also made available data processing equipment at critical junctures in the development of the research. We are grateful to officials of the Yale University Computing Center, the Goodyear Rubber Company of Middletown, Connecticut, and the Russell Manufacturing Company of Middletown, Connecticut for their timely assistance. The willing help of people in each of these agencies permitted us to explore with satisfying thoroughness the images of occupations held by college students.

Faculty members, administrators and especially students at each of the colleges studied assisted us in gathering data in a manner that would quiet any investigator's qualms about public hostility to social science research. We wish to acknowledge our gratitude to the following colleagues and friends, who were of great help to us at various stages in our work: Dr. Robert C. Birney, Mrs. Dorothy Ciosek, Dr. Morris Davis, Mrs. Helen Ehlinger, Dr. C. Hess Haagen, Mr. John W. Macy, Jr., Mrs. Janet L. O'Dowd, Dr. Bernard C. Rosen, and Dr. Richard C. Teevan. Mrs. Marian N. Haagen established a record for speed and accuracy of card punching that appears to be theoretically unattainable. We owe a special debt to Mrs. Beatrice M. Burford for her devotion to the task of coordinating the many stages of this project over a two year period.

Donald D. O'Dowd

April 1960

David C. Beardslee

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TABLE OF CONTENTS

Title	Page

List of Tables vii

List of Figures ix

List of Appendix Tables viix

Chapter I. Introduction 1

General Considerations
Research Objectives
Related Research
Procedure
Properties of the Questionnaire

Chapter II. Profiles of Occupations 26

Generality of Findings
Tabulations of the Data
Profiles
Comparative Plots of Profiles
Summary

Chapter III. Dimensions of Occupation Space 54

Procedure
Factor Structure
Discussion of Factor Structure
Value Implications

Chapter IV. Group Comparisons 73

Relative Importance of Demographic Variables
Comparison of Men and Women
Women's Views on a Man's World

TABLE OF CONTENTS - Continued

	Title	Page
Chapter V.	Group Comparisons - Between Colleges	90
	Comparison of Private and Public College Students	
	Comparison of Students at Two Private Colleges for Men	
	Summary	
Chapter VI.	Group Comparisons - Academic and Social Variables .	104
	Comparison of Freshmen and Seniors	
	Comparison Based on Socio-Economic Background	
	Comparison Based on Family Occupational Setting	
Chapter VII.	Implications of Findings	110
	College Vocational Guidance	
	College Counselling	
	Academic Curricula	
	Professional and Business Interests	
	Behavioral Science Considerations	
Chapter VIII.	Summary and Conclusions	117
Appendix I.	Sample Questionnaire Page	
Appendix II.	Sampling Procedures and Questionnaire Administration	
Appendix III.	Tabular Summaries	
Bibliography		

LIST OF TABLES

Table Number — Page

1. Scales Used on the Two Forms of the Occupations Questionnaire 14

2. Occupation Titles Rated by All Subjects 16

3. Number and Percentage of Completed Questionnaires, by College and Class 21

4. Medians and Ranges of Correlations Among All Pairs of Sampling Units for 15 Occupations 28

5. Number of Significant Differences Between 12 Pairs of Occupations at Wesleyan and the Private Women's College 30

6. Ideal and Real Occupational Preferences of College Men . . . 42

7. Average Factor Loadings - Factor I 58

8. Average Factor Loadings - Factor II 59

9. Average Factor Loadings - Factor III 61

10. Average Factor Loadings - Factor IV 62

11. Factor Scores of Occupations on the Four Main Factors . . . 64

12. Differences Between Men and Women in Ratings of Occupations . . 77

13. Percentage of Women Indicating Most Pleasing and Most Probable Husband by Occupational Categories of Husbands 81

14. Mean Values and Ranks of Male Like-To-Be Scale for Men and Women 83

15. Career Aspirations Following Graduation of Women College Students 85

16. Occupational Intentions of College Women Who Expect to Work After Graduation 86

17. Average Values and Ranks of Female Like-To-Be Scale for Women at Two Colleges 88

LIST OF TABLES - Continued

Table Number		Page
18.	Occupational Status of Fathers of College Students	91
19.	Occupational Status Aspiration of Male College Students . .	93
20.	Differences Between Private and Public College Students in Ratings of Occupations	95
21.	Occupational Status of Fathers and Aspirations of Freshmen Sons at Two Men's Liberal Arts Colleges . . .	100
22.	Differences Between Students at Two Private Men's Liberal Arts Colleges in Ratings of Occupations	102

LIST OF FIGURES

Figure Number		Page
1	Comparative Plot of College Professor and Scientist	45
2	Comparative Plot of College Professor and School Teacher	46
3	Comparative Plot of Doctor and Scientist	47
4	Comparative Plot of Engineer and Scientist	48
5	Comparative Plot of School Teacher and Social Worker	49
6	Comparative Plot of Doctor and Lawyer	50
7	Comparative Plot of Business Executive and Lawyer	51
8	Comparative Plot of Business Executive and Industrial Manager	52
9	Locations of Occupations in Factor Space	65

APPENDIX TABLES

	Table Number	
Appendix II.	23	Sample Size, and Frequencies and Percentages of Questionnaires Completed by Wesleyan Men
	24	Sample Size, and Frequencies and Percentages of Questionnaires Completed by Men at the Second Private Liberal Arts College
	25	Sample Size, and Frequencies and Percentages of Questionnaires Completed by Private College Women
	26	Adjusted Sample Size, and Frequencies and Percentages of Questionnaires Completed by State University Men and Women
	27	Percentage Returns of Completed Questionnaires by Class and Sex of Undergraduates
Appendix III.	28	Occupational Status of Fathers of All College Students in the Study
	29	Occupational Status Aspirations of All College Men and Aspirations in Terms of Husband's Expected Occupational Status for All College Women
	30	Types of Communities in Which All College Students Spent Most of Their Childhood
	31	Academic Major or Intended Major of All College Students in the Study
	32	Occupational Intentions of All College Men in the Study
	33	Scales Showing Significant Differences Between 12 Pairs of Occupations at Wesleyan
	34	Scales Showing Significant Differences Between 12 Pairs of Occupations at the Private Women's College

APPENDIX TABLES - Continued

Table Number

35 Average Male Profiles

36 Average Female Profiles

37 Correlation Matrix - Osgood Form

38 Correlation Matrix - Cattell Form

39 Rotated Factor Loadings

40 Comparative Rotated Factor Loadings, Osgood and Cattell Forms, Factor I

41 Comparative Rotated Factor Loadings, Osgood and Cattell Forms, Factor II

42 Comparative Rotated Factor Loadings, Osgood and Cattell Forms, Factor III

43 Comparative Rotated Factor Loadings, Osgood and Cattell Forms, Factor IV

Chapter I

INTRODUCTION

General Considerations

There is at present widespread concern about the distribution of highly educated young people among professional and managerial occupations. Many observers are disturbed that some rewarding and culturally vital occupations are chronically short of personnel while other fields suffer from a perennial oversupply of recruits. In response to this problem much energy is being channeled into providing means for guiding young people to consider a range of vocational possibilities that will fit their talents and enthusiasms while serving more fully the national interest. However, in spite of all the energy and effort being directed at the problem of rationalizing the allocation of human resources, it is interesting to note that relatively little is known of how college students conceptualize the career world they are preparing to enter. Much of the effort to understand student orientations to career alternatives has centered on determining the level of information that students possess about the duties and demands of specific jobs.

This study was designed to provide a body of basic information on student perceptions of social dimensions of the occupational structure which awaits them after college. The research rests on a general assumption about the relations of contemporary American society to the college student. A number of commentators on the changing American scene, including David Riesman (1953) and William H. Whyte, Jr. (1957), have suggested that the present college generation is oriented toward the personal and social features of its environment rather than the political, economic and religious dimensions which monopolized the thinking of the preceding student generation. The present day student therefore is likely to organize his thinking about future choices around the type of people with whom he wishes to associate and the style of life he hopes to attain. The work of Gillespie and Allport (1955) and Jacob (1957) lends support to this hypothesis. If this formulation is correct then highly differentiated conceptions of the style of life and the personality profiles associated with occupational roles should exist among students. Also, it is reasonable to expect that a relationship exists between the degree to which an occupational image[1] contains favorable personality and life-style characteristics, the status of the occupation, and the degree to which students would at least in fantasy wish to enter it.

Several preliminary studies conducted as part of a series of investigations leading up to this research supported the expectation that life-style and personality characteristics are regularly associated with occupational roles by college students. For example, when students were asked in a free response interview to give their impressions and general conceptions of several occupations, they invariably replied by describing how the occupant of an occupational role lives off the job, the kind of person he might be, the friends he would have, his standing in the community, etc. Rarely did anyone mention how the role occupant spends his time in the eight or more hours a day that he is engaged in his work (_vid._, Beardslee and O'Dowd, 1958). Another study conducted with liberal arts college men asked for specific statements on how they expected to spend their time from day to day in their chosen fields after graduation. From students with specific career plans direct questions elicited such vague responses as, "I will talk with people," or "I will attend committee meetings," or commonly, "I will help people and answer the questions that they bring to me." When interviewers probed for more details they met with embarrassment and hostility. For most students in the liberal arts setting the life that comes after working hours seems to be much more real than the life that supports and justifies the style of family living.

There is no guarantee of course that all students are in agreement on the properties associated with different occupations. However, if this is a significant belief system then a measure of agreement is to be expected. Many studies on the values and attitudes of young people have indicated that the youth culture is remarkably homogeneous in its effects. A belief system with any degree of saliency tends to be widely accepted within sub-cultures of the adolescent and young adult population.

---

[1] In this report the term "image" is often used in preference to "stereotype". Since its introduction by Lippman (1922) the word stereotype has acquired rather negative connotations. The work of Katz and Braly (1933) and others who have linked the term stereotype primarily to studies of racial and national prejudice has made it difficult to convey the idea that a stereotype can also be neutral or positive. The word image has come into use in recent years in reference to the public conception of a product, celebrity or institution. It is this meaning of image that will be used throughout the report.

These hypotheses derive their significance from the further assumption that choice of an occupation is felt by young people to be of major importance. Perhaps the only evidence necessary to support this is provided directly by the experiences of everyone who works with college students. Even at the level of autistic thought the importance of future career is clearly revealed. Shaffer and Shoben (1956) found that an overwhelming percentage of a sample of men and women college students reported daydreams focussed on "vocational success".

Several additional considerations indicate the value of extending knowledge of the beliefs held by students about the career world. Myers and Roberts (1959) in their investigation of emotional disturbance among adults have observed that the route through college to a "respectable" occupation is of major importance in the emotional development of many middle class young men. This is particularly true of students who must reshape their self-concept as they move through college into a job as a consequence of striving for higher positions in the community than those of their parents. Erikson (1950) has described this as part of the crisis in establishing a sense of identity which challenges a segment of the American middle class. Of very great importance in permitting the young person to establish a stable identity, a key to emotional well-being, is a clear picture of the meaning of the occupations open to him. If it is to be of value, this meaning must be spelled out in terms of the personal and social implications of selecting an occupation as well as in terms of the nature of the work. The occupational roles available to a student provide him with alternative identities that have varied strengths and weaknesses from the standpoint of his ambitions and ideals. A future occupation or profession may provide the young person with a sense of selfhood that was often derived in previous generations from the family, socio-economic class, or religious group. In a society characterized by high geographic mobility, following his color and his socio-economic class, a man's occupation is his most visible identifying characteristic. These thoughts can be summarized by the words of E. C. Hughes (1951) that, "...a man's work is one of the more important parts of his social identity, of his self, indeed of his fate, in the one life he has to live, for there is something almost as irrevocable about choice of an occupation as there is about choice of a mate" (p.314).

If these general commentaries on the importance and complexity of the images of occupations are valid then educators among others need to reconsider some of their practices. It would appear that there may be great need to inform students in detail about the objective features and rewards of a range of occupations which are both in general favor and disfavor. Very little has been done to urge young people to analyze critically the non-vocational assumptions with which they approach their future careers. A shift of focus in this direction would be particularly urgent with the college population, in which high-level future national talent is being trained. If students have firm stereotypes about key occupations these images may well be self-confirming to the detriment both of the students and the nation if they are permitted to go unchallenged.

There are three ways in which the stereotype of an occupation may influence career choice at the college level. First, the student is in a position to experiment with the fit of a variety of possible career alternatives with his self-image. The available alternative that comes closest to fitting with the student's conception of himself will have a higher probability of choice. Both Bordin (1943) and Super (1957), among the theorists concerned with occupational choice, have developed the implications of this mechanism. Second, the tentative selection of an occupational specialty subjects the student to classification by family and friends in its terms. This permits the student to experiment with some of the consequences of his choice with only minor risk. Evidence for this has been obtained in an unpublished exploratory study conducted preliminary to the present investigation. Finally, the images of occupations form a climate of opinion within which the uncertain student surveys vocational options. Opinions about an occupation emerge during informal discussions or as casual comments often under conditions which social psychologists believe to be ideal for the formation or alteration of attitudes (e.g., Katz and Lazarsfeld, 1955). A study by Mead and Metraux (1957) was conducted specifically for the purpose of delineating the opinion climate in which many talented high school students decide to avoid scientific careers.

In summary, this research is intended to accomplish three general purposes. It will evaluate the belief that young men about to enter the world of work make careful distinctions among jobs in terms of their personal, social and life-style implications. Secondly, information of importance in analyzing a critical stage in personality development will be obtained. The value and goals implicit in the images held by students should provide a key to the content of identity in the current student generation. A third general purpose is to gather data that will facilitate the interpretation of current trends in the choice of occupations by college students. The attainment of these general purposes depends upon their being translated into a series of specific research objectives.[2]

Research Objectives

The research objectives of the project may be divided into two groups. One aim of the study was to establish the general outlines of student thinking about occupations, while the second goal was to determine the agreements and differences among various categories of students in terms of their beliefs about occupations.

One portion of the research investigated the main outlines of the cognitive system that underlies student judgments about the occupational world. What are the main evaluative dimensions that students utilize in responding to an array of occupational titles? Is their approach to occupations primarily one-dimensional or do they distinguish among occupations with a multi-dimensional set of judgmental standards? These questions were answered in part by means of a factor analysis of student responses to a research instrument designed for this study. This provided information about the structure of student thinking which guided the study of similarities and differences of occupational images emerging from comparisons of different groups of students.

The other general research objective of the project was to study the characteristics of the images of occupations primarily in terms of their content, and to isolate determinants of the content of images by a comparison of the images held by different demographic classifications of students. This aim was implemented by developing a series of specific research questions which could be answered by analyzing responses to the questionnaire. First, how do the images of occupations compare with one another? Pursuit of this issue should reveal the unique features of each occupation, the common characteristics of similar occupations, and perhaps unexpected similarities among occupations that are normally considered to be quite different. Second, what are the differences in images associated with two major sociological features of the college scene - differences between men and women, and between students at public and private colleges? Large differences in beliefs and attitudes are frequently found when such significant aspects of the college population are used as a basis for comparison. If few or no differences are found in these comparisons, then it is unlikely that finer and less reliable distinctions within the student population will prove fruitful. Next, the effects of four years in college on images will be investigated by comparing freshmen with senior response patterns. This is really a comparison of people at both extremes of their undergraduate experience. Admittedly this is not nearly as powerful a procedure as a longitudinal study. Fourth, does the social milieu in which students have grown up influence their perceptions of the occupational world? This question can be answered by comparing the images held by students from different socio-economic levels, and also by comparing students from professional families with sons and daughters of business-oriented families. A further question centers around the relative importance of these several demographic aspects of the student population in determining occupational images. A comparison of the five variables mentioned above will permit an approximate estimate of their contribution to beliefs on the nature of occupations.

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[2] The issues discussed in this section are developed more fully in Beardslee and O'Dowd (1960a).

Another important goal of the research was to investigate the relationship between vocational preferences and beliefs about occupations. Since the study was limited to a very brief time span it was not possible to determine the relation between images and actual occupational choices. It would be desirable to follow up a sample of subjects at a later time to determine how the images they hold relate to selection of an occupation. However, within the data available in this study it was possible to investigate features of the images that were consistently related to preferences for particular occupations.

The research was not organized to test a specific set of hypotheses. Rather it was conceived as a search for basic data and understanding which would generate hypotheses for future research endeavors. In fact, a number of hypotheses can be tested with the data that were collected. These will be noted as the results are presented and discussed. An example of the kinds of questions on which this work bears can be drawn from Jacob (1957) who asserts that four years of college brings about very slight changes in values and beliefs of students.

A great deal of effort was expended in collecting large and representative samples of students at each college included in the study. A very important aim of the research was to obtain data from which inferences could be made with a high degree of confidence. On the whole it is possible to say that the results reported in later sections are very close to what would have been obtained had the entire student populations been questioned in these colleges. The generality of the findings is of course limited by the fact that only four colleges were included. Nevertheless these colleges represent in an informal way several important categories of institutions.

There is already in existence literature dealing with the form and content of occupational stereotypes. This study was designed in such a way that it would complement and extend the variety of research that is described in the following section. The existing data were not permitted to dictate the outline of the present study but they were utilized where they offered suggestions of the most important issues that are in need of investigation.

Related Research

Writers on vocational guidance and the psychology of occupations frequently mention the existence of occupational images or stereotypes. However they rarely present more than impressionistic statements about the nature of the stereotypes of specific occupations. A survey of the literature reveals that very little systematic investigation has been conducted on the images of occupations. A great deal is known about the stereotypes of religious, racial and national groups but only a small amount of information exists about the perception of members of different occupational groups.

Five general areas of investigation can be drawn upon to provide some understanding of the nature of occupational stereotypes. Four of the five research areas mentioned in the following sentences have been concerned more with establishing the existence of occupational stereotypes than with studying their properties.

One series of relevant investigations was directed to determining the accuracy with which observers can assign a series of occupational titles to unidentified photographs of members of several occupational groups. The extensive literature on prestige ranking of occupations reveals one of the dimensions of occupational stereotyping. Studies of the "faking" of vocational interest inventories provide additional evidence of the existence of occupational images. There are several projective techniques which operate on the assumption that stereotypes of occupations have some differentiation and complexity. Finally, in recent years a literature has begun to take form reporting directly on the images of occupations held by different populations. These five categories contain most of the continuous research related to the primary concerns of this report. Of course, there are many other studies which bear indirectly on this area scattered throughout the social sciences.

The first empirical studies of the images of occupations were initiated by S. A. Rice (1926). His work grew out of a long history of researches designed to estimate the accuracy with which character and intelligence can be judged from photographs. Rice investigated the skill with which subjects matched occupational titles with unidentified photographs taken from magazines and newspapers of people in the occupations listed. The frequency of correct pairings of titles and pictures was regularly well above chance. This was offered as evidence for the existence of occupational stereotypes. In this work the focus of study was consistently placed on successes rather than on systematic errors. Later studies by Litterer (1933), Gahagan (1933) and Child (1936) confirmed the existence of stereotyped responses to photographs and provided additional information about the agreement on stereotypes of occupations in a wider sampling of subjects. All of these early studies employed detailed photographs containing a variety of cues of dress, hair style, and pose to activate existing images. A more recent study by Secord, Bevan and Dukes (1953) has demonstrated that subjects can describe characteristics of the photo of a person without being influenced by an identifying occupational title. This suggests that an occupational stereotype can be invoked to identify a photograph but that the existence of a stereotype will not interfere greatly with a request for reaction to the physiognomic characteristics of a specific face. It should be noted that Secord, et al. used photos devoid of any unusual features of hair style, dress, etc.

A second line of investigation which touches upon the images of occupations was originated by Counts (1925) with the publication of a study on the prestige rankings of occupations. Roe (1956) has reviewed a long sequence of subsequent investigations into the prestige ordering of occupations which reveal the great stability of the occupational prestige structure over a thirty year period for many different types of subjects. Perhaps the most definitive research in this field was conducted on a national sample by NORC (1947). A recent report by Inkeles and Rossi (1956) shows the generality of the occupational prestige system throughout Western industrial society.

Although this body of work is ordinarily given as evidence for the existence of a dimension along which all Americans can locate men on the basis of their jobs, it also constitutes the most exact data available on the stereotypes of occupations. Large segments of the American public are in agreement on the characteristics in status terms of many occupations. Indeed, this research suggests a model for conceptualizing the way in which individuals respond to questioning with a coherent image. It is fruitful to conceive of respondents as having in mind one, two, or more evaluative dimensions with which they judge occupations. When asked to rate an occupation or any other concept on many characteristics they draw from these primary dimensions maintaining a measure of consistency among their answers for any given occupation. On the prestige dimension most Americans have learned the relative location of most occupations. This dimension may have culture-wide features while less salient dimensions are used consistently only by sub-cultures.

A third set of results based upon stereotypes of occupations has been obtained in work with inventories of vocational interests. The vast bulk of this research attempts to evaluate the relation between a person's interests and those of a criterion group within an occupation. However several investigations of the accuracy with which subjects can deliberately "fake" the inventory or make a score appropriate to a pre-designated occupational area provide further evidence for the existence of rich and complex occupational images. Bordin (1943), and Longstaff (1948) have reported on the skill with which subjects can achieve on request various interest profiles, while Chaplin (1949) has found that profiles characteristic of upper, middle, and lower socio-economic classes can be produced by experienced subjects. None of these authors comments on the agreement among subjects when their attempts at "faking" were inaccurate. It is this analysis of both right and wrong conceptions of occupational fields that distinguishes the study of stereotypes from other types of investigation.

Studies in a fourth category bearing on images of occupations are somewhat diverse. They are grouped together because they assume that people have general beliefs or impressions about occupations. First, the Vocational Apperception Test devised by Ammons, Butler and Herzig (1949) presents subjects with pictures of standard occupational situations to which they are requested to write brief stories. The success of this instrument depends upon the ability of subjects to achieve a degree of identification with the roles portrayed. Second, the Holland Vocational Preference Inventory (1958) is a personality inventory employing occupation titles as test items. Preferences for various categories of titles are related to a variety of other personality measures and they differentiate among diagnostic classifications of subjects in a meaningful way. This implies that occupations are perceived in a consistent and stereotyped manner by the high school and college populations on which the tests were standardized. Finally, an early investigation of occupational preferences by Lehman and Witty (1936) provides data on the clustering of preferred occupations by a large sample of junior high school students. Each of these studies represents a way of investigating occupational images although none of them has been used for this purpose.

The final category of studies bears directly on the present research. These are investigations designed to study directly the properties of the images of occupations. They demonstrate a growing concern with an area of inquiry and the development of an appropriate methodology. A remarkable forerunner of the contemporary work was published by W. A. Anderson (1934) reporting a study of occupational stereotypes that he conducted in the late 1920's. Although seriously limited by the lack of facilities for handling large quantities of data, Anderson was able to anticipate virtually all the general questions set by this report and other current studies. Unfortunately, apparently no other investigators were inclined to continue his work. Another early study by Osgood and Stagner (1941) sought to determine the images held by students of men in fifteen different occupations by means of two-ended seven-point rating scales. This valuable research is very similar in form to the present work. It foreshadowed the development of the semantic differential on which the work in this report draws so heavily.

Two papers in recent years, one by Stagner (1950) and another by Haire and Grunes (1950), have reported on the images held by young people of occupational groups belonging to the industrial world. A wider range of occupational images has been summarized by Grunes (1957), Walker (1958), and Davidson and Riesman (1959). The latter two studies present evidence that college students have stable and complex images involving, among other things, personality traits of the role occupants.

There are two specialized investigations involving occupational stereotypes which have employed the semantic differential. Nunnally and Kittross (1958) have reported profiles for several categories of mental health personnel, while Jenkins, Russell and Suci (1958) included several occupation titles in compiling an atlas of semantic profiles.

Considerable attention has been attracted by two studies of the image of the scientist. Remmers and Radler (1957) have indicated that a striking percentage of high school students attribute undesirable personal and social characteristics to the scientist. A more extensive investigation of the scientist image among high school students employing a free response essay procedure was carried out by Mead and Metraux (1957). They too found that although many students value the scientist for his contribution to society they fear him or they believe that he is cold, distant, and somewhat inhuman.

The present research relates to and supplements the work that precedes it in many ways. Some of these will be indicated as the results are described. The differences between this effort and other published work should be noted at this point. The use of probability samples of students representing several colleges provides a more solid ground for generalization than does most earlier work with college populations. The range of occupations studied and the large number of scales provides an unusually rich context in which to evaluate the images of any one occupational or professional grouping. This is the first attempt to investigate what might be termed the evaluative dimensions with which people respond to the career world. It is also the most elaborate effort yet reported to study the relations between demographic factors and occupational images. It is ironical to note that the work of Anderson (1934) comes closest to this study in terms of comprehensiveness, while the method employed is closely related to the study of Osgood and Stagner (1941), two of the first direct studies of occupational stereotypes.

Procedure

Instrument

A questionnaire was constructed to collect information on images of occupations held by students. This instrument was developed over a period of two years in a succession of exploratory studies (vid., Beardslee and O'Dowd, 1958). The questionnaire required a subject to rate each of 15 occupations on the same 34 seven-point rating scales. The scales were defined by a pair of terms of opposite meaning placed at the two ends of the scale. All scales were arranged in such a way that the subject could rate an occupation from "very closely related" to the term at one end of the scale through neutral at the fourth position to "very closely related" to the term at the opposite end of the scale. The technique was suggested by Osgood's work with the semantic differential.

Two overlapping forms of the questionnaire were developed to permit the use of a large number of scales without exhausting the good will of any one group of subjects. Twenty-one scales were common to the two forms. These scales are presented on the first page of Table 1. The number preceding each scale indicates its serial position in the questionnaire. The defining terms of each scale are ordered to left and right as they were in the questionnaire. The arrangement of the polar terms is such that the "desirable" ends of the scales are placed to right and left with equal frequency. These twenty-one scales were derived from a series of interview studies, preliminary questionnaire studies and factor analyses of several sets of questionnaire results. The items located at the two ends of a scale are either logically opposite (e.g., plays bridge...doesn't play bridge) or psychologically opposite in that they are found at opposite ends of a bipolar factor (e.g., cleancut...strange). The scales were selected to represent five factors which were identified with varying degrees of clarity in the preliminary investigations. Scales representing a given factor are separated from one another by scales from other factors both in the common section and the discrete section of the questionnaire.

In addition to these twenty-one scales one form of the questionnaire contained thirteen scales chosen to represent five of the major factors of meaning identified by Osgood, Suci and Tannenbaum (1957) in their work with the semantic differential. The Osgood scales are listed in the upper section of the second page of Table 1. The second form of the questionnaire consisted of the 21 common scales plus 13 scales representing the first seven factors located by Cattell (1957) in his analysis of personality ratings. The Cattell scales are presented in the lower portion of the second page of Table 1.

The name of an occupation was printed at the top of every questionnaire page, followed by the array of 34 scales as shown on the sample page presented in Appendix I. A subject received fifteen pages, each of which was headed by the title of a different occupation. The 15 occupation titles studied are listed in Table 2. The scales for rating the occupations were identical on all fifteen pages for any one person. The order of the occupation names was varied randomly from questionnaire to questionnaire to avoid order effects.

The 34th scale at the end of every rating page on both forms was designed to elicit a summary impression of the personal and social properties associated with the occupation being rated. The scale read,

> 34. In summary, what do you think is the general personal effectiveness of the PERSONNEL DIRECTOR?
>
> personally effective __:__:__:__:__:__:__ personally ineffective

Another summary scale was located on the last page of the questionnaire, separated from all of the other scales. The respondent was requested to,

> Rate each of the following occupational positions according to how much you would like to enter them if you were free to make the choice without regard for training, ability, or time and expense required for specialized study. In other words, rate each occupational position in terms of how much you would like to be in it if you could be in any occupation you wanted.
>
> 1. Accountant like to be __:__:__:__:__:__:__ not like to be

The 15 occupations were listed alphabetically for rating. This scale was intended to provide a measure of the respondent's idealized ambitions for comparison with the occupational images that they produced.

Women were given a slightly different version of the like-to-be scale. They were asked to indicate how college men would feel about entering these 15 occupations if they were free to make a choice. This involved but a minor change of

Table 1

SCALES USED ON THE TWO FORMS OF THE OCCUPATIONS QUESTIONNAIRE

Scale No.	Scales Used on Both Forms		
1 J	wealthy	__:__:__:__:__:__:__	not well-to-do
2 J	conformist	__:__:__:__:__:__:__	individualist
3 J	has a pretty wife	__:__:__:__:__:__:__	wife is not pretty
4 J	doesn't play poker	__:__:__:__:__:__:__	plays poker
5 J	has good taste	__:__:__:__:__:__:__	has poor taste
6 J	unhappy home life	__:__:__:__:__:__:__	happy home life
7 J	cleancut	__:__:__:__:__:__:__	strange
8 J	low opportunity for advancement	__:__:__:__:__:__:__	high opportunity for advancement
9 J	plays chess	__:__:__:__:__:__:__	doesn't play chess
10 J	not interested in art	__:__:__:__:__:__:__	interested in art
11 J	high social status	__:__:__:__:__:__:__	low social status
12 J	unsuccessful	__:__:__:__:__:__:__	successful
13 J	great personal satisfaction	__:__:__:__:__:__:__	little personal satisfaction
14 J	doesn't play bridge	__:__:__:__:__:__:__	plays bridge
15 J	powerful in public affairs	__:__:__:__:__:__:__	not powerful in public affairs
16 J	socially unpopular	__:__:__:__:__:__:__	socially popular
17 J	radical	__:__:__:__:__:__:__	conservative
18 J	worthless	__:__:__:__:__:__:__	valuable
23 J[a]	optimistic	__:__:__:__:__:__:__	pessimistic
32 J[b]	calm	__:__:__:__:__:__:__	excitable
34 J	personally effective	__:__:__:__:__:__:__	personally ineffective
35 J[c]	like to be	__:__:__:__:__:__:__	not like to be

---

[a] This scale appears as #23 on Osgood form and #27 on Cattell form.

[b] This scale appears as #32 on Osgood form and #21 on Cattell form.

[c] See page 13.

Table 1 - Continued

Scale No.	Scales Used Only on Osgood Forms		
19 O	deep	__:__:__:__:__:__:__	shallow
20 O	changeable	__:__:__:__:__:__:__	stable
21 O	active	__:__:__:__:__:__:__	passive
22 O	colorless	__:__:__:__:__:__:__	colorful
24 O	soft	__:__:__:__:__:__:__	hard
25 O	hot	__:__:__:__:__:__:__	cold
26 O	rash	__:__:__:__:__:__:__	cautious
27 O	interesting	__:__:__:__:__:__:__	boring
28 O	selfish	__:__:__:__:__:__:__	unselfish
29 O	wise	__:__:__:__:__:__:__	foolish
30 O	weak	__:__:__:__:__:__:__	strong
31 O	sensitive	__:__:__:__:__:__:__	insensitive
33 O	rational	__:__:__:__:__:__:__	intuitive
	Scales Used Only on Cattell Forms		
19 C	adaptable in habits	__:__:__:__:__:__:__	inflexible in habits
20 C	unintelligent	__:__:__:__:__:__:__	intelligent
22 C	has emotional problems	__:__:__:__:__:__:__	has no emotional problems
23 C	self-assertive	__:__:__:__:__:__:__	submissive
24 C	depressed	__:__:__:__:__:__:__	cheerful
25 C	persevering	__:__:__:__:__:__:__	quitting
26 C	indifferent to people	__:__:__:__:__:__:__	attentive to people
28 C	evasive about life	__:__:__:__:__:__:__	realistic about life
29 C	thoughtful	__:__:__:__:__:__:__	unreflective
30 C	unsure	__:__:__:__:__:__:__	confident
31 C	self-sufficient	__:__:__:__:__:__:__	attention-demanding
32 C	irresponsible	__:__:__:__:__:__:__	responsible
33 C	sociable	__:__:__:__:__:__:__	retiring

Table 2

OCCUPATION TITLES RATED BY ALL SUBJECTS

Identifying No.	Name
01	Accountant
02	Artist
03	Business Executive
04	College Professor
05	Doctor
06	Engineer
07	Industrial Manager
08	Lawyer
09	Office Supervisor
10	Personnel Director
11	Retail Store Manager
12	Sales Manager
13	School Teacher
14	Scientist
15	Social Worker

wording. It was intended that the question should yield evidence on how women perceive the desirability for men of various idealized occupational choices.

The following instructions to the subject were adapted from those used by Osgood, Suci and Tannenbaum (1957)[3]

> The purpose of this study is to find out the impression that people have of various occupations by having them judge the occupations against a series of descriptive scales. In taking this test, please make your judgments on the basis of what you feel about these occupations. On each page of this booklet you will find a different occupation to be judged and beneath it a set of scales. You are to rate the occupation on each of these scales in order.
>
> If you feel that the occupation at the top of the page is very closely related to one end of the scale, you should place your check-mark as follows:
>
> has a pretty wife ✓:_:_:_:_:_:_ wife is not pretty
>
> or
>
> has a pretty wife _:_:_:_:_:_:✓ wife is not pretty
>
> If you feel that the occupation is quite closely related to one or the other end of the scale (but not extremely), you should place your check-mark as follows:
>
> low social status _:✓:_:_:_:_:_ high social status
>
> or
>
> low social status _:_:_:_:_:✓:_ high social status
>
> If the occupation seems only slightly related to one side as opposed to the other side (but is not really neutral), then you should check as follows:
>
> intelligent _:_:✓:_:_:_:_ unintelligent
>
> or
>
> intelligent _:_:_:_:✓:_:_ unintelligent
>
> The direction toward which you check, of course, depends upon which of the two ends of the scale seems most characteristic of the occupation you are judging.
>
> If you consider the occupation to be neutral on the scale, both sides of the scale equally associated with the occupation, or if the scale is completely irrelevant, unrelated to the occupation, then you should place your check-mark in

---

[3] The authors are indebted to Dr. Charles E. Osgood for granting permission for the use of a slightly modified version of the instructions he developed for use with the semantic differential.

> the middle space:
>
> pessimistic _:_:_:✓:_:_:_ optimistic
>
> IMPORTANT: (1) Place your check-marks in the middle of spaces, not on the boundaries:
>
> This Not This
>
> __:✓:__:__:__✓__:__
>
> (2) Be sure you check every scale for every occupation - do not omit any.
>
> (3) Never put more than one check-mark on a single scale.
>
> You will notice that the same scales are used for each occupation, so do not look back and forth through the scales. Do not try to remember how you checked similar scales earlier in the test. Make each item a separate and independent judgment. Work at fairly high speed through this test. Do not worry or puzzle over individual items. It is your first impressions, the immediate "feelings" about the occupations, that we want. On the other hand, please do not be careless, because we want your true impressions.

These instructions were varied only slightly for the version of the questionnaire prepared for women. The first paragraph was amended to read,

> The purpose of this study is to find out the impression that people have of various occupations entered by men by having them judge the occupations against a series of descriptive scales. In taking this test, please make your judgments on the basis of what you feel about these occupations as they involve men in our society. On each page of this booklet you will find a different occupation to be judged and beneath it a set of scales. You are to rate the occupation on each of these scales in order.

The last paragraph required the addition of a brief phrase in the next to last sentence, changing it to,

> ... It is your first impressions, the immediate "feelings" about the occupations as they involve men, that we want. (Etc.)

Space was provided for all subjects to write their name and class at the top of this first page.

The final page of the questionnaire requested from the respondent a certain amount of personal information. The men were asked to state their academic major field or intended major, their intended occupation, a specific description of their father's job, and the type of community in which they spent most of their childhood. Women also were asked about their major, their father's job, and the type of community in which they grew up. They were also asked to fill out the same like-to-be scales as the men were, indicating their own concerns and ambitions in relation to career possibilities. The occupational intentions of women were determined by this question:

> After graduation, do you plan to make home and family your career, or have you other plans?
>
> Plan home and family career ____________________
>
> Plan to work part time as ____________________
>
> Plan to work full time as ____________________

The following question was asked of women to ascertain the way their marital future might link them with the occupational world:

> Think about or imagine the man whom you might wish to marry.
>
> What would please you most as an occupation for him? ____________________
>
> What would please you least as an occupation for him? ____________________
>
> What do you think is the most probable occupation of the man you might wish to marry? ____________________

The form of the questionnaire for women was designed to discover the views of women on the career world open primarily to men. This was done for two reasons. First, it was desirable for purposes of comparison to standardize the frame of reference being used by both men and women. Second, since the greater part of a woman's future social opportunity is determined by the occupation of her husband, her views about occupational alternatives for men are of great significance. It is certainly of interest to discover the points of similarity and difference in men's and women's perceptions of the male career world.

Each male subject received a questionnaire consisting of an instruction page printed on bright yellow paper followed by 15 white pages containing 34 scales each, with an occupation name at the top, and a final page requesting some personal information in addition to the like-to-be scale. The female form of the questionnaire differed from the male form primarily by having another page at the end requesting further personal information. The two forms of the questionnaire defined by the inclusion of either Osgood or Cattell scales were distributed to random halves of the men and women sampled. The questionnaire was printed by a commercial printer on good quality, medium weight paper (vid., Appendix I).

Subjects

Students at four colleges were studied. The colleges included two highly selective northeastern men's liberal arts colleges of approximately 1,000 students each, a highly selective women's liberal arts college in the same region and of comparable size, and the coeducational undergraduate college of arts and sciences at a large northeastern state university. Some characteristics of the students at each college are presented in Appendix III, Tables 28-32. At each institution a probability sample of freshmen and seniors was drawn from the most complete listing of undergraduate students available. The samples of students should be highly representative of the student bodies of their particular colleges.

In Table 3 the number of subjects who returned useable questionnaires and the percentage of completed questionnaires are recorded by college and by class. The percentage return of useable questionnaires falls markedly below 90% in only two of the ten cells in Table 3. The 85.1% return from freshmen men at the state university was largely accounted for by a misunderstanding which led an agent to miss a group of students in one small dormitory. There is no reason to believe that this group was different from other freshmen men. It is unlikely that systematic bias resulted from this error. The seniors questioned at the second men's liberal arts college are quite numerous, but they are not an adequate sample of the class as a whole. The data on occupational images were collected in collaboration with a continuing study at the college. Unfortunately the seniors were test-weary and consequently resistant to the lengthy occupations questionnaire. In the interest of the established longitudinal study it was

Table 3

NUMBER AND PERCENTAGE OF COMPLETED QUESTIONNAIRES, BY COLLEGE AND CLASS

	Private Colleges					
	Wesleyan		Men's Lib. Arts II		Women's Lib. Arts	
Class	N	%	N	%	N	%
Sr.	77	90.6	158	61.2	105	89.0
Fr.	77	90.6	117	100.0	114	95.0
Total	154	90.6	275	73.3	219	92.0

	State University			
	Men		Women	
Class	N	%	N	%
Sr.	126	94.0	119	92.2
Fr.	131	85.1	154	95.1
Total	257	89.2	273	93.8

deemed unwise to carry through a vigorous follow-up to improve the quality of the sample. This particular group is not given a central position in the analyses that follow because of the uncertainty of any inferences that might be drawn from it. Fortunately the sample from Wesleyan is of high quality and the two colleges are very similar in their characteristics (vid., Chapter V).

The overall percentage returned was 86.5%. The women sampled were better represented with a 93.0% return than the men with a return of 82.4%. However, if men from the second liberal arts college are excluded the male return rises to a more respectable 89.7%. The number of questionnaires that contribute to the analyses which follow is 1,178.

Questionnaire Administration

The main procedure for distributing questionnaires was to hire undergraduate student agents at each college to deliver questionnaires to pre-selected lists of subjects. An agent was given a list of students of his sex from whom he was to obtain completed questionnaires. It was a policy of the project to affect a personal delivery of the questionnaire whenever possible.

When several agents were employed on the same campus the total sample was divided among the agents by a random procedure. The agents distributed the two forms of the questionnaire to random halves of their group of subjects. A detailed description of sampling procedures and techniques of questionnaire administration for each college is given in Appendix II.

Data Processing and Analysis

Returned questionnaires were assigned a number and the background information was coded. The data were then transferred to IBM punchcards. For each subject 525 columns of numeric information were entered on 15 IBM cards. One card was used for each occupation rated by each subject. In addition 15 columns of identifying numbers and coded background information were entered into each of the 15 cards of one subject.

Data analysis was carried out primarily by means of three IBM machines. An IBM Model 101 statistical machine was used to count responses in a variety of ways. A Model 407 accounting tabulator served to compare the responses of groups of subjects. A Model 650 computer was employed to reduce raw data to manageable sets of summary scores. Various other machines were used to supplement these three basic machines.

Properties of the Questionnaire[4]

Reliability

The test-retest reliability of the occupations questionnaire has been studied in considerable detail. In general terms, the questionnaire possesses on several measures a degree of reliability comparable with that reported both for personality ratings and the semantic differential by other researchers. Since much of the work in the following chapters involves the comparison of group means, the agreement between the occupational images produced by one group of subjects on two occasions is of some interest. The median correlation of the images of occupations defined by mean scale values was +.93 for a group of subjects tested twice with an eight-month interval between test sessions. The correlations by occupations ranged from +.97 for artist to +.85 for engineer.

Validity

There is no economical way to assess directly the validity of the data reported in the following chapters. This was a study of the organization of a specific belief system that can be expressed through writing and speaking. It seems reasonable to assume that the responses of the subjects reflected albeit imperfectly their thought processes. Since the most obvious behavioral correlate of these images, the choice of an occupation, is limited by many social environmental factors it can only relate to the images in an indirect fashion. For example, the image enters the specific occupational decision of a young man along with his intellectual endowment, access to education, and the wishes of his family. In the absence of an accessible "correspondence" criterion of validity it is necessary to rely on the "coherence" of the data as evidence of their validity. Several different sets of data gathered in a series of studies employing various research procedures are mutually supporting. For example, open-end interviews revealed essentially the same profiles of occupations that emerged from highly structured questionnaires. In another study the contents of descriptive essays about occupations were found to resemble the responses obtained by alternative methods. It is fair to say that the belief system about the meaning of occupations reveals the same form and content when measured by many different research techniques.

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[4] An extended technical discussion of the properties of the occupations questionnaire is contained in Beardslee and O'Dowd (1960b).

Sequential Effects

For any group of subjects the position of an occupation in the questionnaire varies randomly from the first to the last position in the sequence of occupations rated. Therefore position effects will not influence group means. In order to determine whether serial position in the questionnaire influences the image of an occupation a separate analysis was carried out comparing the mean scale values of an occupation when it is at the extreme ends of the series. The results indicate that subjects assign somewhat less desirable scores to an occupation if it occurs at the end of a questionnaire compared with the beginning. However the size of the difference is negligible. For all practical purposes the position of an occupation in the questionnaire does not influence its image.

Limiting Conditions

Several choices were made in constructing the questionnaire which may limit the implications of the results. The choice of occupations does not need to be defended at any length. The titles studied were selected to represent the fields entered by a large segment of the graduating college population. The use of occupational titles such as doctor and lawyer rather than an equivalent descriptive phrase such as "a person working in medicine" was governed by two considerations. Most other research in this area uses occupational titles, and the testimony of subjects reveals that the more elaborate descriptive phrase is awkward and sometimes confusing. Finally, it should be noted that the instructions request subjects to rate "occupations" rather than "men working in these occupations." The practice in this regard has varied from one experimenter to another. An unpublished study by Bowers (vid., Beardslee and O'Dowd, 1960a) has shown that when the concept of "a student who intends to enter an occupation" is rated there is very high agreement with the mean ratings assigned the occupational title alone by an independent group of subjects. The image of the college professor correlates +.95 with the image of the "undergraduate who intends to enter college teaching," while the image of the business executive correlates +.88 with the image of an "undergraduate who plans to go into business." These data suggest that rating an occupational title is functionally equivalent to rating a generalized person in an occupation.

Chapter II

PROFILES OF OCCUPATIONS

Generality of Findings

What images do college students have of the high-level occupations which are chosen as careers by a large percentage of male graduates? First order analysis of the data collected from the four colleges included in the study revealed that students have complex, differentiated and very interesting beliefs about specific occupations. Moreover, it was found that the students from all of the colleges are in substantial agreement about the properties associated with each occupation. In fact, there is reason to believe the images that emerged are held by arts and science college students on a national basis. The questionnaire uncovered a system of stereotypes that may be generally agreed upon by young people in American culture who are in a position to attend a non-sectarian college or university.

Evidence for this sweeping assertion can be derived from an analysis of the agreement among the different sampling units of students, defined by the separation of the samples at the four colleges into freshmen and seniors, men and women. For each of the ten sampling units (e.g., Wesleyan freshmen, private women's college freshmen, public university senior women, etc.) mean scale values for all 48 scales (the common scales plus the Osgood and Cattell scales) on each of the 15 occupations were computed yielding 720 means for each sampling unit. The mean scale values for all occupations were correlated for all pairs of the 10 sampling units. For example, the 720 mean scale values obtained from Wesleyan freshmen were correlated with the corresponding means derived from the scores of each of the other nine sampling units. This provided a measure of the overall agreement among each pair of these rather diverse groups of students. If these intercorrelations are uniformly high, then it will be possible to assert with some confidence that a system of images exists which is a general characteristic of the beliefs and attitudes of college students in arts and sciences.

A correlation of +.97 between the private women's college freshmen and seniors is the highest value found in this series of comparisons. When Wesleyan seniors are compared with state university freshmen women the relatively high correlation of +.89 marks the smallest agreement among the pairs of sampling units. The median correlation for the 45 possible pairs of sampling units is +.94. These very high correlations are conclusive evidence that great agreement exists between dissimilar groups of students on the images of occupations.

To what extent is this general belief system reflected in the agreement between groups of subjects on the images of particular occupations? The general correlations are so high that they are certain to be mirrored in the underlying correlations of individual occupations. In order to determine the degree of agreement on each occupation among the groups of subjects the mean scale values of each occupation were correlated for all pairs of the ten sampling units. That is, the mean scale values for college professor computed for the Wesleyan seniors were correlated with the corresponding values from each of the other nine sampling units. The procedure was repeated for the remaining 14 occupations. Table 4 presents the median correlation and the highest and the lowest correlations among the sampling units for each occupation. The smallest range of correlations was provided by artist which varies from +.99 when Wesleyan senior scale values are correlated with those of seniors from the second private men's college to +.95 for the association between scale values on artist of private women's college seniors and state university freshmen men. The largest range of correlations was obtained for engineer which varies from +.95 to +.78. It is fair to say that these high correlations represent strong evidence that there are stereotypes of each occupation that are common to students at several important types of colleges.

Now it is possible that these high correlations are found because students do not differentiate among the occupations. When occupational images are compared with one another there may be a great deal in common among all occupation profiles. Then the high correlations among sampling units would be an indication of a global, undiscriminating attitude toward all high-level occupations. One way of testing this possibility is to determine the correlation between all pairs of occupations within a given sample of subjects. If these correlations are high then the hypothesis that all occupations are given similar ratings will be supported.

Two random stratified sub-samples of 48 subjects were drawn from the total sample. Each sample was made up of 24 students who had responded to the Osgood

Table 4

MEDIANS AND RANGES OF CORRELATIONS AMONG ALL PAIRS OF SAMPLING UNITS FOR 15 OCCUPATIONS

Occupation	Median r	Range
Accountant	92	85 - 97
Artist	97	95 - 99
Business Executive	92	87 - 98
College Professor	93	85 - 97
Doctor	92	88 - 98
Engineer	86	78 - 95
Industrial Manager	89	84 - 96
Lawyer	91	82 - 98
Office Supervisor	92	85 - 98
Personnel Director	90	83 - 95
Retail Store Manager	93	87 - 97
Sales Manager	92	88 - 96
School Teacher	94	84 - 98
Scientist	94	8[illegible] - 98
Social Worker	94	88 - 98
Median of Medians	92	
Total Profile (all scales, all occupations)	94	89 - 97

questionnaire form, and 24 subjects who had answered the Cattell form. The profiles of all 105 possible pairs of 15 occupations were intercorrelated for both samples. The median inter-occuppation correlation was +.44 with a semi-interquartile range of +.19 to +.65 combining all scores from both samples. There is virtually no overlap between these correlations and the inter-sampling unit correlations listed in Table 4. There is a fair measure of general association among most pairs of profiles because they represent a selection of rewarding high-level careers. However the profile similarities indicated by these correlations are not nearly high enough to account for the remarkable agreement among the sampling units of subjects. The hypothesis of an undiscriminating response to all high-level occupations is not confirmed.

A further test of the differences between occupations was conducted by comparing the mean values on all 48 scales for 12 pairs of occupations out of the 105 possible pairings of 15 occupations. The 12 pairs were selected by comparing all paired combinations of five occupations of some general interest (college professor, doctor, sales manager, scientist, and social worker) generating ten comparisons, and adding two more paired comparisons of occupations representing the limiting case of the most similar occupations in the entire set of 15 (office supervisor with retail store manager, and accountant with office supervisor). When these comparisons were carried out for the Wesleyan sample an average of 35.8 scales out of a possible 48 were different at the 5% level or less in the ten combinations of five occupations. The analysis was replicated exactly with the data from the private women's college. In this case an average of 39.8 scales differed significantly in the same ten comparisons of occupation pairs. The office supervisor and retail store manager, the most similar occupations in the set, differ significantly on 12 scales for Wesleyan men and on 19 scales for women at the private college. The closely related occupations of accountant and office supervisor are rated differently at the 5% level or less on 29 scales by Wesleyan men and on 19 scales by private college women. These results indicate that even the most similar occupations are rated differently on a large number of scales. The most divergent pairs of occupations were not singled out for separate analysis. Table 5 summarizes the results of these comparisons at both institutions. The significant differences are listed for all scales in Tables 33 and 34 of Appendix III. It is clear that large differences exist among the profiles of the occupations studied. Students have very different

Table 5

NUMBER OF SIGNIFICANT DIFFERENCES
BETWEEN 12 PAIRS OF OCCUPATIONS
AT WESLEYAN AND AT THE PRIVATE WOMEN'S COLLEGE

Occupation Pair			Wesleyan (N=154)	Private College Women (N=273)
College Professor	-	Doctor	39	39
College Professor	-	Sales Manager	35	43
College Professor	-	Scientist	31	30
College Professor	-	Social Worker	35	42
Doctor	-	Sales Manager	42	47
Doctor	-	Scientist	39	39
Doctor	-	Social Worker	38	40
Sales Manager	-	Scientist	33	39
Sales Manager	-	Social Worker	32	40
Scientist	-	Social Worker	34	39
Average of 10 pairs:			35.8	39.8
Accountant	-	Office Supervisor	29	19
Office Supervisor	-	Retail Store Manager	12	19

images of the high-level occupations that at least in theory are open to them. The hypothesis that the correlations among sampling units stems from an undifferentiated response to all occupations is not supported by these data.

It should be noted at this point that women were rating occupations as they involve men. From the correlations among the sampling units it can be seen that women respond to the questionnaire in much the same way as men. The material that follows is applicable to the occupational world of men according to both men and women.

Tabulations of the Data

The detailed characteristics of the images of occupations in terms of the scales included in the questionnaire are summarized in Tables 35 and 36 of Appendix III. The entries in Table 35 are the averages of the average scale values attributed to each occupation by Wesleyan men and the state university men (N = 411)[5]. Entries in Table 36 are the averages of average scale values for each occupation according to women at the private and public colleges (N = 492)[5].

The data in Tables 35 and 36 may be used to achieve an understanding of occupational images in a variety of ways. First, individual profiles may be studied to determine the characteristics on which a given field is perceived by students to be high and low. By this method the outstanding aspects of personality, social relationships and style of life associated with one field may be discovered. Second, an occupation can be evaluated in terms of its relatively outstanding features in comparison with other fields in this sampling of high-level occupations. This provides an estimate of the relative strengths and weaknesses of a particular field. A third procedure is to study an occupation in comparison with one or two others that are closely related to it. For example, the college professor and scientist, or perhaps the business executive and the industrial manager, may be fruitfully compared. By this technique the relative features of two or three closely allied fields are highlighted. From each of these procedures information can be obtained on the attractiveness to college students of alternative occupations, the student view of the occupational world, and the values implicit in the judgments that students make. Tables 35 and 36 are a remarkable source of hypotheses on the values of students and their conceptions of the occupational future awaiting them.

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[5] The data in these two tables are based on the analysis of approximately 650,000 responses.

Profiles

Since it takes considerable time and effort to develop the analyses that have just been suggested it seems wise at this point to provide the reader with a first order analysis of the occupational profiles. Therefore a series of descriptive vignettes has been drawn summarizing the statistical data that are presented in tabular form. These portraits draw upon an analysis of the characteristics of separate profiles as well as consideration of the relation of the occupation to the entire group of high-level occupations. Where it is appropriate similar occupations will be compared to one another. In other words, all the analytic procedures mentioned in the preceding paragraph will be utilized. A systematic comparison of sub-sets of profiles will be developed in a later section. The following word pictures are grouped into five categories: high-status professions, lower-status professions, high-status business and managerial occupations, lower-status business and managerial occupations, and artist in a category unto itself called "expressive occupations."

High-Status Professions

Doctor.- Without any doubt the doctor is a culture hero for college students. He anchors the desirable end of a surprising number of scales. Indeed, the doctor's position on a scale can be used as a reliable indicator of the ideal score on that scale. If he scores at an extreme then this is a valuable trait to possess; if he is in the middle then moderation on this attribute is probably most desirable. Medicine is rated by students as an extremely valuable calling which is richly rewarded by high social status, wealth and success. The doctor is favored with high opportunity for advancement, and he derives great personal satisfaction from his work. Compared to men in most other occupations he can count on an unusually pretty wife and a very happy home life. The doctor is very much reality oriented. He approaches the world responsibly and with perseverance. He is outstandingly calm, confident and self-sufficient, while his great stability, caution and rationality are balanced by his adaptability. The doctor is seen as very much oriented to people although it appears that this may be partially a professional concern. Nevertheless he is thoughtful and unselfish; he gives of himself to others. The doctor's cheerfulness and optimism fit well with his unfailing interest in and attention to others. His high intelligence appears to be more a correlate of his strong, active, masterful qualities than a sign of the highest intellectual culture. The image of the doctor calls to mind the general finding in differential psychology that desirable traits tend to go together in the same person. There are no undesirable traits attributed to the doctor. Not every student feels drawn to the medical calling, but all recognize the remarkable personal and social attractiveness of the doctor's role.

It is a favorite pastime of social analysts, and particularly of foreign visitors to America, to point to our worship of the businessman. The data from this study suggest that the true hero in contemporary America is the doctor. He is successful, yet he serves others; he is at once masterful and gentle; and finally, he possesses high intelligence but maintains a close touch with concrete reality.

Lawyer.- The image of the lawyer has many characteristics that are also attributed to the doctor. However, in almost all cases the doctor is rated more favorably on traits which they have in common. The lawyer possesses high social status, success, and wealth. He has considerable opportunity to advance in his job and he is outstandingly powerful in public affairs. The lawyer is viewed as an outgoing, sociable person who likes to be with people and is at ease in the company of others. The lawyer shares with the doctor realistic, persevering, forceful, strong and active qualities. He is a person who is effective in the world of objects, events and people. These characteristics are qualified, however, by a high degree of hardness and self-assertiveness. There is more than a hint of a selfish, manipulative attitude in the lawyer that is wholly lacking in the doctor image.[6] The lawyer is perceived as having high intelligence and good taste. He rates a pretty wife but his home life is not seen as particularly happy. The lawyer, like the doctor, is without negative properties, but on many more scales than the doctor he earns values that come in the middle of the distribution of means from the 15 occupations. The drawing power of the lawyer image is obviously very great. It combines most of the rewards promised by the medical profession and possesses many of the same desirable personal properties while providing somewhat more scope for less service oriented and less unselfish ambitions. Of particular prominence in the case of the lawyer is the stress placed on sociability and access to public power.

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[6] Whenever an occupation is said to differ from another on a specific trait this refers to a difference in mean scale value between the two occupations that is significant at the 5% level or less.

College Professor.- A dominant feature of this image is the great stress on intellectual competence accompanied by sensitivity to artistic or aesthetic experience. The professor is seen as an individualist with colorful, interesting, exciting qualities coupled with a degree of rashness, changeability, emotional difficulties and lack of adaptability. It is quite likely that he is interesting because of his emotional, unpredictable nature. In spite of these characteristics and a high score on radicalism he is granted considerable power in public affairs. Students rate the professor as very valuable and they see his role as a source of great personal satisfaction. On the debit side the professor is described as not well-to-do and lacking in opportunity for advancement. This is a very different picture from the two previous sketches. The college professor lacks the rich material rewards of the free professionals, and he does not equal them in either social or reality oriented competence. Where they are stable and dependable he is changeable and unpredictable. In one manner of speaking, the doctor and lawyer are of this world while the professor is out of it. His intellectual qualities are the primary asset of the college professor. Probably the most striking impression emerging from this profile is its lack of masculinity. It is predominantly a volatile feminine picture with emphasis on intellect, sensitivity and impulsiveness.

Scientist.- Two strong impressions are conveyed by this profile. First, the scientist is characterized by high intelligence dissociated from artistic concerns and sensitivities. This cool intelligence is linked with strong individualism in personal and political realms. Second, there is a clear lack of interest in people on the part of the scientist. On a variety of scales tapping aspects of sociability the scientist anchors the undesirable end of scale scores for all the occupations studied. A good deal of control is implied by the description of the scientist as self-sufficient, rational, persevering, and emotionally stable. He has power in public affairs but he is rated only moderately responsible and quite radical. This suggests that uncertainty about the motives and trustworthiness of the scientist noted in younger people by other investigators lingers on in college students. The personal life of the scientist is thought to be quite shallow, his wife is not pretty, and his home life is not very happy. He is rewarded by great personal satisfaction, considerable success and reasonable opportunity for advancement. He enjoys moderate wealth and social status. In summary, the scientist is a cool, controlled intellectual. He is competent in organizing the world of things but disdainful of the world of people. Although more richly rewarded than the college professor, the scientist contrasts strikingly with him in aesthetic sensibilities and social skills. It should also be noted that the scientist is clearly a masculine figure in a desexualized way. When the scientist is compared with the doctor the source of many of the difficulties in recruiting scientists becomes evident. Only a limited group of young people would feel either qualified for or interested in matching the image just developed.

Engineer.- On the whole, engineering is something of a colorless profession for liberal arts students when compared with the alternatives already mentioned. The image of the engineer is most easily understood when juxtaposed with that of the scientist with whom the engineer has many features in common. The engineer is rated generally intelligent but not nearly so powerful in this regard as the scientist. On the other hand, although he is no social lion he is considerably more socially adept than the scientist. The engineer is quite successful and reasonably wealthy, but he gains less satisfaction from his work than the scientist derives from pure research. Finally, the engineer is more conservative and more likely to be a conformist than the scientist. Except for these important differences the engineer is almost identical with the scientist.

Lower-Status Professions

School Teacher.- In every classification of occupations according to social status the school teacher is located in the second or third tier among the professions. However, school teaching accounts for the occupational preferences and choices of a substantial percentage of college graduates. The school teacher image is dominated by the depressed economic state of the profession. The teacher scores conspicuously low in wealth, social status, and advancement opportunity. He has little power in public affairs, and he cannot even command an attractive wife, although he can count on a happy home life - just the opposite of the lawyer's situation. The teacher is considered intelligent, sensitive and interested in art much as the college professor but to a lesser degree. Further, he is attentive to people and unselfish in his relations with them. In this regard he has a service orientation somewhat like the doctor's. Finally, the teacher is seen as lacking in confidence and in hard, assertive properties. Once again the feminine component is high but now it is associated with a more nurturant and at the same time dependent quality. Unlike the professor, the teacher has a rather calm impulse life.

Social Worker.- Of all the professions studied social work seems least suited to men. On the positive side the social worker is highly sensitive to the needs and wants of others. He is a person who is eager to help others even at the cost of great personal sacrifice. However, he is not an active, gregarious, popular person in social relationships; rather, he is more focussed on the problems of people than on their personalities. The social worker is perceived as thoughtful, adaptable, responsible and self-sufficient. He is cheerful and optimistic, and he enjoys a happy home life although his wife is notably unattractive. The social worker is rewarded with great personal satisfaction and little else. In terms of material success, wealth, status or public power he is near the bottom of all the occupations. Like the school teacher, he is low in confidence, assertiveness and toughness. However, unlike the teacher, he is rated low in intelligence, taste and artistic sensitivity. The social worker is almost purely a servant of the people who must derive his entire reward from the pleasure of helping others. It seems unlikely that a person can cultivate this orientation; it must have to come spontaneously or be supported by an ideological commitment of the highest order.

High-Status Business and Managerial Occupations

Business Executive.- The business executive role is the ultimate aim of many of the undergraduates who start out for business careers and of others who select this option after abandoning professional aspirations. The business executive is extremely high in social status, wealth and success. He has power in public affairs, ample opportunity to advance himself, and even a very pretty wife. He is classified as quite conservative, but when his conservatism is paired with his good taste a picture of quiet elegance is suggested. He possesses the sociable properties earlier noted in the lawyer, accompanied by a confident, assertive, masculine manner. He is also rated strong and active, responsible and persevering. Thus far the sketch coincides very much with that of the highly favored lawyer. The differences between them are not many but they are important. The business executive does not possess the high intelligence or the hard, rational properties that make the lawyer a most formidable figure. The executive is even less service oriented than the lawyer; he is in fact a selfish individual. Finally, the business executive is believed to possess a component of excitability and emotional instability which probably relates to the popular belief about his tendency to suffer from peptic ulcers. The business executive has both weaknesses and personal problems that offset to some degree his wealth and status.

Lower-Status Business and Managerial Occupations

Industrial Manager.- It was originally expected that this occupation would cluster with business executive at the top of the business hierarchy. The students, however, classified the industrial manager at the head of the lower status business and industrial positions in their responses. He is predominantly characterized by toughness and insensitivity. The industrial manager is a hard, strong, confident, self-assertive, poker-playing character. This picture of strength and drive is supported by a high degree of emotional stability. He has plenty of opportunity for advancement and considerable wealth. There is however a price exacted for all this surgency, for the industrial manager is emotionally insensitive and intellectually and aesthetically underprivileged. He is something of a dull conformist in political and social realms who derives little sense of satisfaction from what he does. There is a kind of mindless power about the image reminiscent of the machines with which it is associated by students.

Personnel Director.- In connection with this occupation Whyte (1956) notes that for corporation-bound students, "...the personnel slot is the glamour one. ...it seems to promise the agreeable role of a combination YMCA worker, office Solomon, and father confessor to the men at the lathes" (p. 81). The responses of college students support these observations. The personnel director is sociable and attentive to people, with a cleancut, Ivy-league flavor. He attends to people and he helps them without becoming too involved and without sacrifice to himself. His temperament is calm, stable, and flexible; he is not plagued by doubts and their attendant emotional difficulties. He is a cheerful and optimistic person living a happy home life on a reasonable income, attended by a pretty wife. There is evidence in the image of a paucity of ideals and convictions, but this is not strong. It is true that the personnel director is neither highly successful nor particularly intellectual, but he is respectable in these terms. This is a remarkably safe image for a student to seek. It promises a life-style and a self-concept that is close to the middle class ideal of comfort and accomplishment.

Sales Manager.- This man appears to be a rather shallow extrovert. He has a fair degree of forceful confidence and a friendly, sociable manner. At the same time he is a selfish, impulsive, and somewhat undependable person. His properties are best explained by the traditional picture of the aggressive and slightly unscrupulous salesman. The sales manager is believed to have but limited intelligence and he is rated as very insensitive in the aesthetic sphere. Finally, the sales manager is classified as an uninteresting person who derives but little satisfaction from his work.

Accountant.- If the doctor is the occupational hero, the accountant is the anti-hero of the occupational world. Clearly his negative properties are dominant. He is low in status, not well-to-do, and unsuccessful. He has little power in public affairs, not much opportunity for advancement, and his job is lowest of all the occupations studied in providing personal satisfaction. The accountant is a conformist, with a minimum of social skills. He is not very intelligent, nor has he developed his personal and aesthetic sensibilities. He is rated as passive, weak, soft, shallow and cold. He is submissive, unsure of himself, and evasive in meeting life. His positive characteristics of caution, stability, conservatism, and calmness rest upon a shaky emotional interior. They probably refer most directly to his control of a limited area of occupational specialization. Students have a rather specific model in mind when they produce this wretched portrait. He is apparently something of a Victorian bookkeeper, chained to a desk and a ledger, from which he has no inclination to depart for traffic with the world or contact with man. There is some doubt in the beliefs of students as to whether or not the accountant is alive.

Office Supervisor and Retail Store Manager.- The profiles of these two occupations are not easily distinguished from one another. They also resemble rather closely the picture of the accountant, although they have a few more redeeming properties. These two occupations are close to the average of all the occupations on the calm, cautious, stable and rational properties that are so marked in the accountant image. Both occupations are perceived as implying a reasonable degree of interest in people, sociability, and popularity, as well as a normally cheerful outlook. These two supervisory occupational roles also are rated closer than accountant to the middle of the distribution of values on confident, self-assertive, hard and active qualities. In all other respects the office supervisor and retail store manager are scored almost exactly as the accountant. These are clearly low-status, unattractive jobs from the point of view of a man or woman who has entered an arts and science college program.

Expressive Occupation

Artist.- This calling is included in the list because, although outside the ordinary occupational structure, it is for many young people either a positive or negative reference point in their thinking about career alternatives. On a number of scales the artist anchors the end opposite that marked by the doctor.

The artist is of course noted most prominently for his sensitivity to matters of aesthetic importance. This is associated with a variety of traits reflecting violent emotions and impulsive expression. For example, he is intuitive, rash, changeable, excitable, and attention-demanding, while being deep, interesting, and colorful. His outstanding individualism and radicalism accompany a group of traits indicating irresponsibility and unwillingness to contribute to society in a disciplined way. The artist is uninterested in people and evidently unsuccessful with them. His moods tend to be dark, depressed and pessimistic. The only reward that he can expect for his work is a high sense of satisfaction. Neither wealth nor status, nor any other marks of the rich full life are associated with the artist. A blind labeling of the role might easily describe this profile as applicable to a teenager in the throes of adolescent problems.

Even a hasty reading of these descriptive summaries points to the wide disparity in attractiveness that exists among these relatively high-status occupational roles. The two independent professionals, doctor and lawyer, are both very appealing figures to this college population. Among the high-status salaried professionals the college professor and the engineer have more desirable characteristics than the scientist. Neither school teacher nor social worker appears to have much appeal as an occupation for men. The artist is clearly an extreme type that can interest only a small portion of the student group although he is fascinating in his complexity.

The business fields are, on the whole, quite unattractive. Business executive and personnel director are exceptions to this statement although both of them lack the very important cultural and intellectual qualities of their professional peers. Of course, each occupation has a particular set of strengths and weaknesses that will have different significance for individual students. It is quite certain that most students have a sense of the personality traits and social goals that should ideally characterize an aspirant to most of these roles.

As a confirmation of the apparent ordering of these profiles in attractiveness, the answers to the like-to-be question on the final page of the questionnaire may be examined. The responses to this question also provide a means of assessing the relation of the image to the career planning of students. The like-to-be question allowed students to state their preference for all 15 occupations in an ideal situation where the constraints of talent, time, money and reality were suspended. In the two left-hand columns of Table 6 the average scores of the 15 occupations as ideal choices according to men are presented for private and public college men. These data point very strongly to the relative effectiveness of the high-status professions in capturing the imaginations of students. The college professor and business executive rank higher than would be expected from the profiles, while the engineer and personnel director seem a trifle low. However, in general the like-to-be scores reflect the ordering of the profiles in attractiveness.

When the power of real occupational intentions is invoked it is evident that the positive images account for the hopes of many male liberal arts majors. The last two columns in Table 6 report the actual occupational preferences expressed by men in the sample. Only the college professor is chosen with a frequency that is out of keeping with his status. This is almost certainly related to the limited rewards and the lengthy training associated with the occupation. However, no evidence was obtained to test such an hypothesis.

The word-pictures also reveal a good deal about the way students respond to the occupational world and the values which underlie their reactions. Further discussion of this topic will be deferred until the following chapter. With the aid of factor analysis of the data it will be possible to develop these issues more precisely.

Comparative Plots of Profiles

On the following pages a series of figures is presented comparing specific sets of profiles which are of particular interest. Figures 1 through 8 permit more detailed analysis of the differences between occupational roles which are frequently compared to one another either in form or function. The sets have been chosen from among a much larger number of comparisons that can be prepared from the data in Table 35, Appendix III. The average profiles for men is the source of the scores plotted in the figures. The following pairs of occupations are plotted in the figures on the succeeding pages:[7]

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[7] Other comparative plots were presented in Beardslee and O'Dowd (1959).

Table 6

IDEAL AND REAL OCCUPATIONAL PREFERENCES OF COLLEGE MEN

Occupation[a]	Ideal Preference Score		Real Preference[b]	
	Wesleyan (N=154)	State Univ. Men (N=257)	Wes. (%)	State (%)
College Professor	2.71[c]	3.09	3	4
Doctor	2.84	3.07	19	7
Business Executive	2.93	3.08	17[d]	3[d]
Lawyer	3.16	2.69	8	11
School Teacher	3.38	3.69	10[e]	15[e]
Scientist	3.54	3.16	6	9
Engineer	3.66	3.93	5	2
Personnel Director	3.84	3.93	-	2
Artist	3.91	4.40	1	1
Industrial Manager	4.08	3.93	-	-
Social Worker	4.40	4.75	-	-
Sales Manager	4.70	4.60	3[f]	2[f]
Office Supervisor	4.72	4.76	-	-
Retail Store Manager	5.09	4.92	-	-
Accountant	5.35	4.96	-	2

[a] Occupations are rank-ordered on the Wesleyan means.

[b] Percentages of all students are listed.

[c] A low score signifies proximity to the like-to-be end of the scale.

[d] Including business (level unspecified).

[e] Including teacher (level unspecified).

[f] Including sales (level unspecified).

Figure 1 - College Professor and Scientist
Figure 2 - College Professor and School Teacher
Figure 3 - Doctor and Scientist
Figure 4 - Engineer and Scientist
Figure 5 - School Teacher and Social Worker
Figure 6 - Doctor and Lawyer
Figure 7 - Business Executive and Lawyer
Figure 8 - Business Executive and Industrial Manager

The figures are organized to provide a maximum of information in the available space. The "desirable" end of each of the 48 scales on which the occupations were rated is located at the left of the figure. All scales have been oriented so that a score of 1.0 represents the highest possible association of the occupation with the property listed at the left, and 7.0 the lowest degree. The items have been rank-ordered on the means of one of the occupations except for the like-to-be scale which is always placed at the end of the set. This presents an ordering of the scales from those on which the reference occupation has the most favorable scores to those on which it has the least favorable scores. The comparison occupation is plotted against this smooth line in order to highlight the similarities and differences between members of a pair. For each scale the range of the means of all 15 occupations is represented by a horizontal line. This provides a rough estimate of the relative position of the occupation under investigation in the distribution of all occupation means on that scale. Finally, whether a scale is common to both forms of the questionnaire or drawn from the Osgood or Cattell forms is indicated by the notation at the left of the figure. The full names of the scales are listed in Table 1. These figures are intended to be largely self-explanatory.

In order to illustrate a mode of analysis permitted by the comparative plot of two profiles, several notable features of Figure 1 will be discussed. In this figure two occupational roles that compete for talented and highly trained young men are represented: college professor and scientist. Many people, of course, fill both of these roles simultaneously although the two occupations are perceived somewhat differently by students. A glance at the figure reveals that both roles are associated with the desirable end of a cluster of scales. Both occupations receive unusually high scores on intelligence, thoughtfulness, wisdom, depth, value and personal satisfaction, a series of scales associated with intellectual ability and interests. On a number of other scales the two occupations earn approximately the same values but these values are near the middle of the distribution of average scale values. These scales suggest that many of the personality characteristics associated with both occupations are quite similar. For example, both college professor and scientist score alike on rational, stable, confident, self-assertive, realistic about life, strong and active. However, the two occupations differ dramatically in several critical areas. First, the college professor receives a much higher score than scientist on interest in art, good taste, and sensitivity. In other words, the scientist is highly intelligent but he lacks aesthetic sensitivity. Second, the college professor is more attentive to people, sociable, popular, and he has a happier home than the scientist. The professor is apparently more interested in people and more successful with them. Third, the college professor is more colorful and interesting than the scientist. The scientist exceeds the college professor to a marked degree only on wealth, opportunity for advancement, and perseverance. It appears, then, that the college professor role compared with scientist implies a more engaging personality in terms of aesthetic interests, social popularity, and lively excitement at a sacrifice of wealth and advancement opportunity. Both occupations are rated highly on the like-to-be scale, but college teaching is unusually attractive at this fantasy level. Each of the succeeding comparative plots are designed to afford the reader an opportunity to compare interesting pairs of occupations.

Summary

In this chapter large inter-occupational differences have been described against the background of very great agreement on each occupational image among diverse samples of students. The large differences separating most of the occupational images are consistently reported by different student populations. In other words, there is a complex set of images of high-level occupations that is widely shared by college men and women in the arts and sciences.

Both statistical and impressionistic summaries of these images were presented. These summaries represent with reasonable certainty the views held

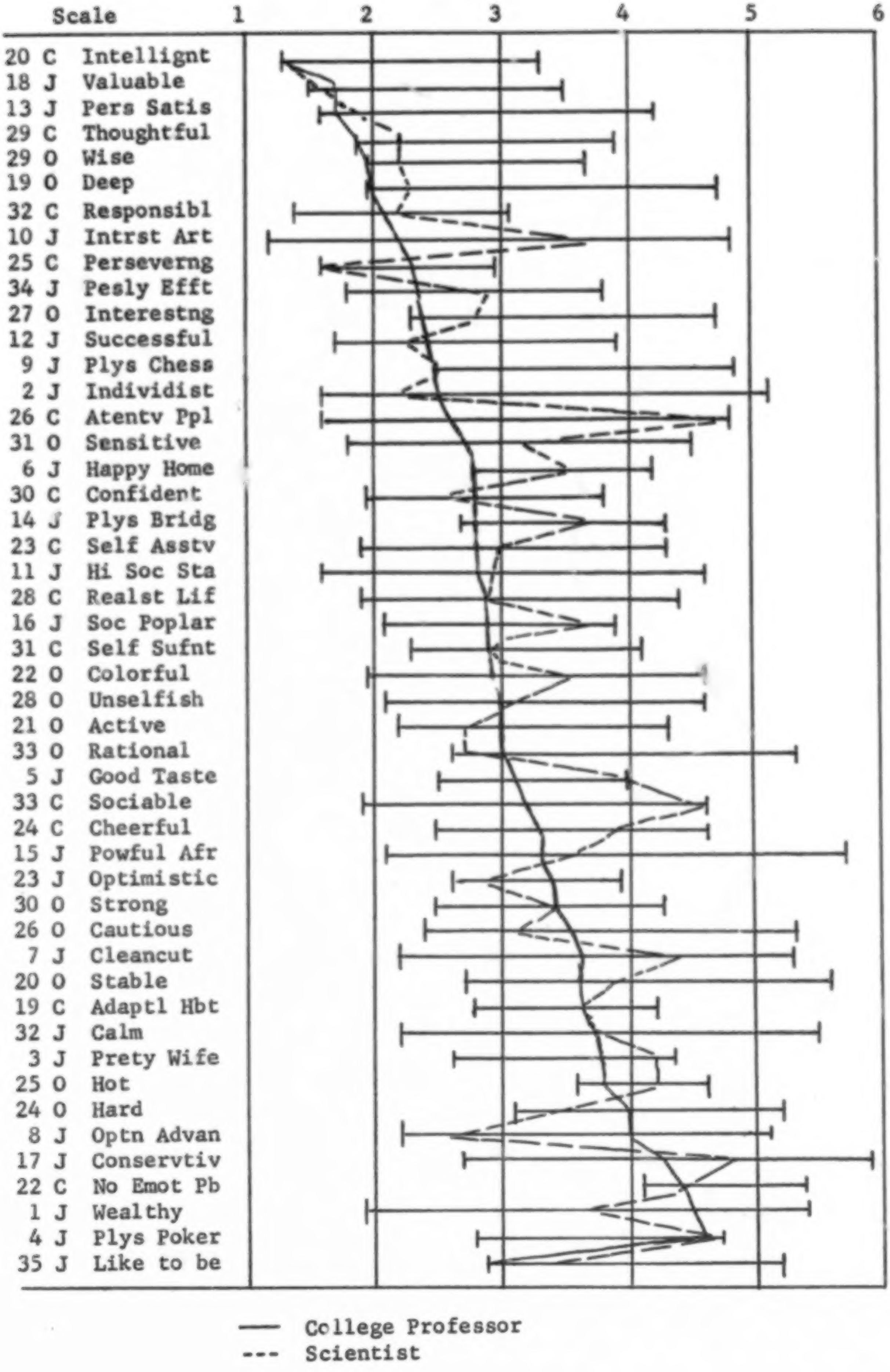

Figure 1. COMPARATIVE PLOT OF COLLEGE PROFESSOR AND SCIENTIST

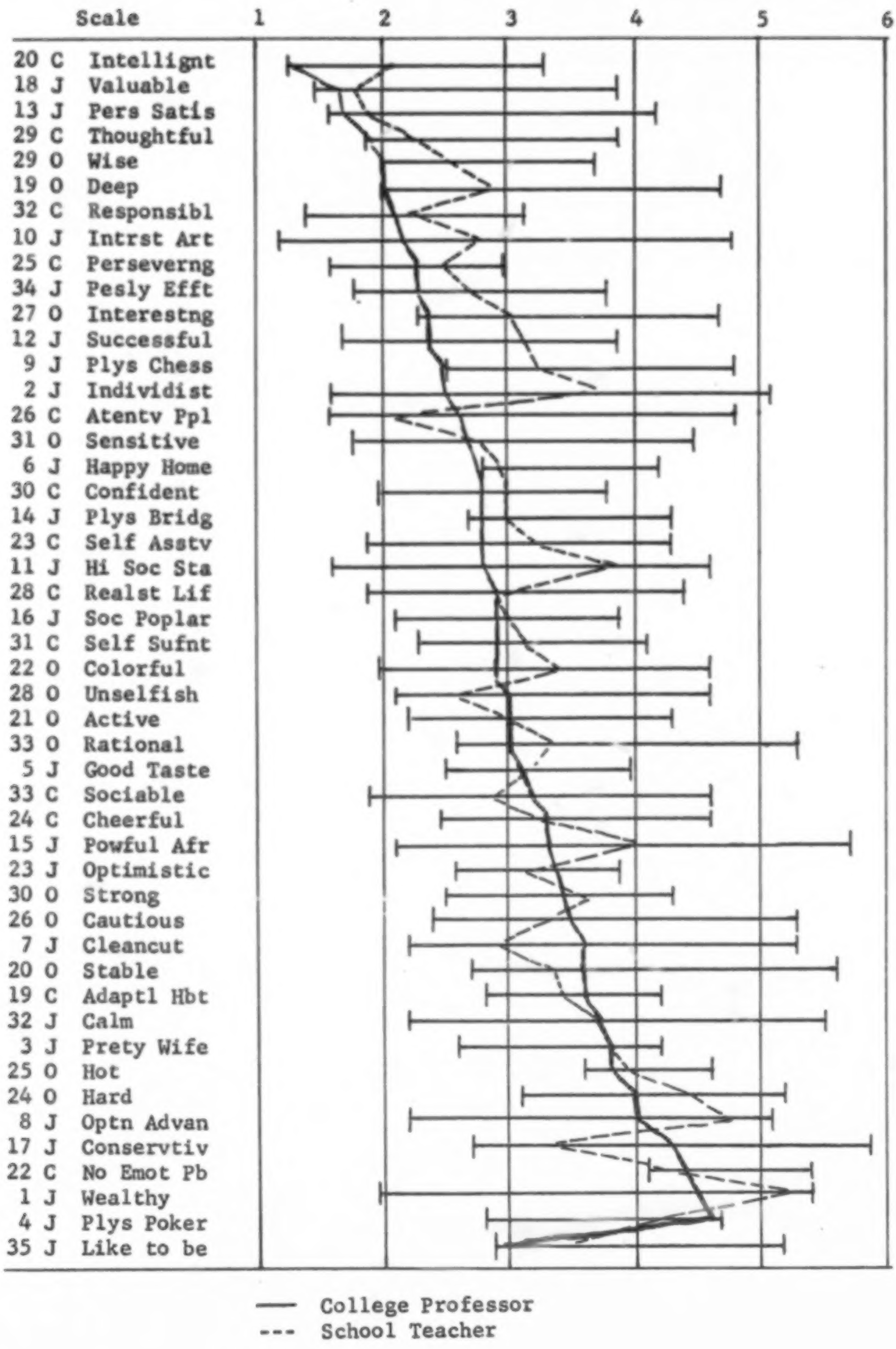

Figure 2. COMPARATIVE PLOT OF COLLEGE PROFESSOR AND SCHOOL TEACHER

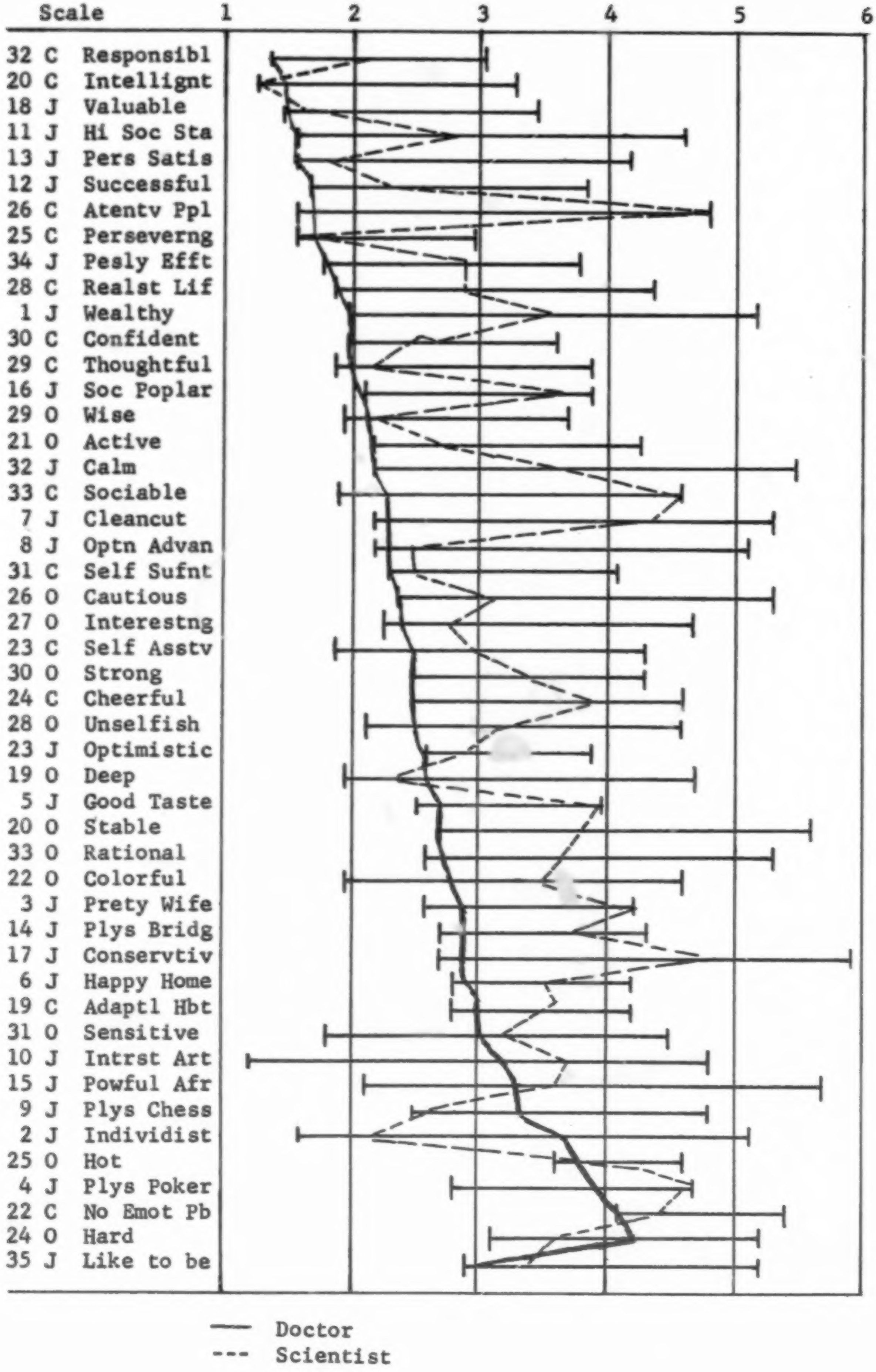

Figure 3. COMPARATIVE PLOT OF DOCTOR AND SCIENTIST

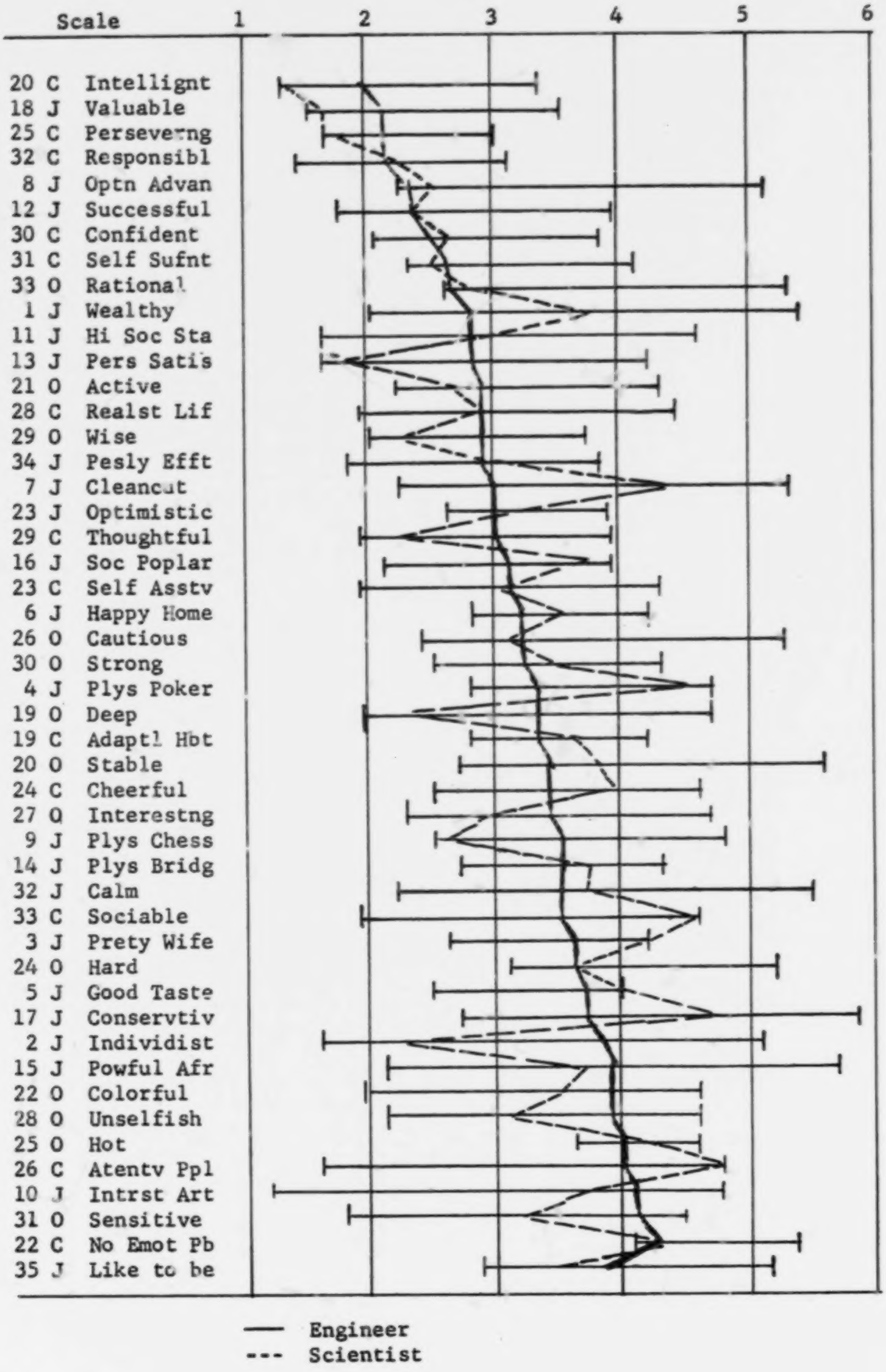

Figure 4. COMPARATIVE PLOT OF ENGINEER AND SCIENTIST

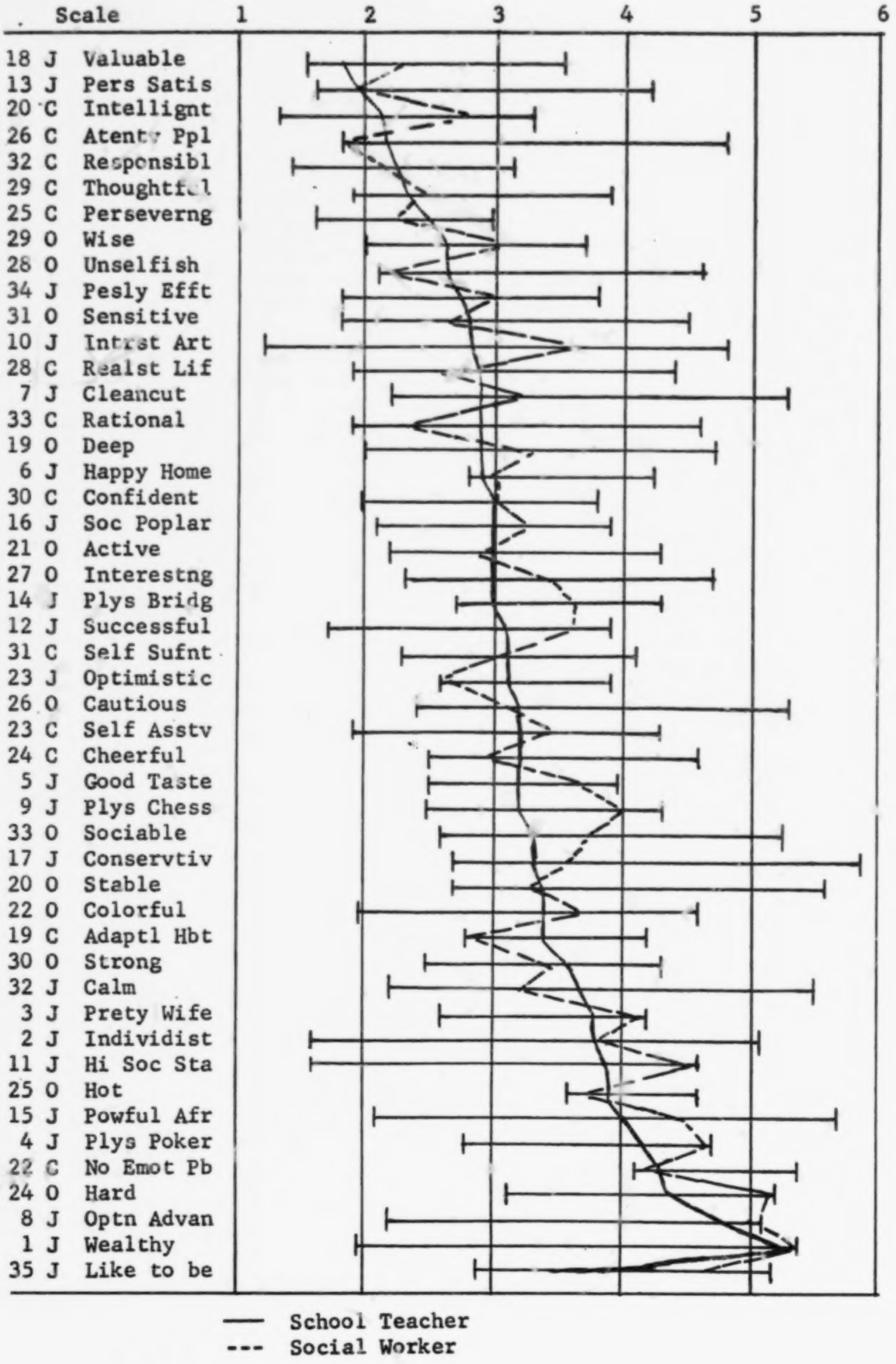

Figure 5. COMPARATIVE PLOT OF SCHOOL TEACHER AND SOCIAL WORKER

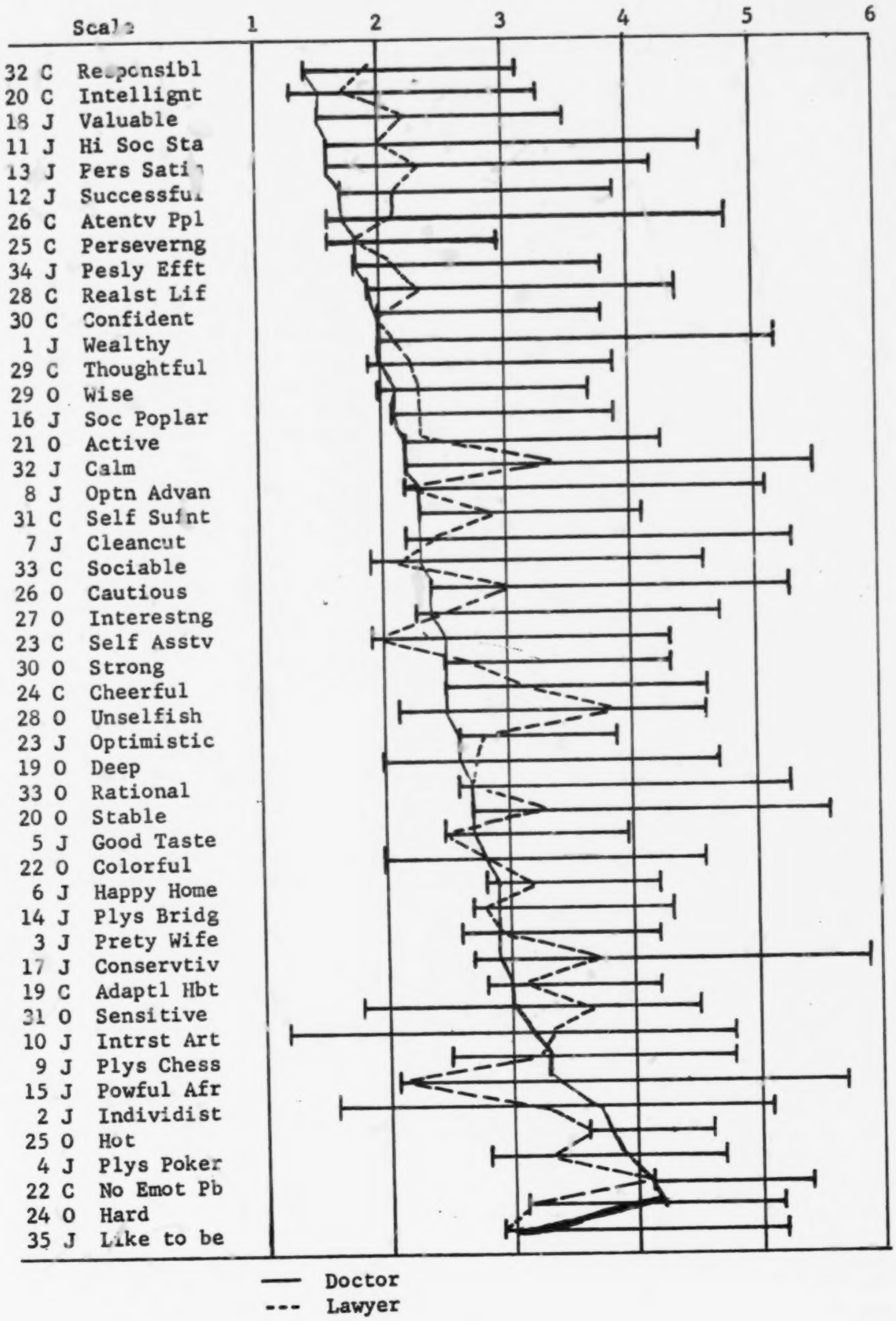

Figure 6. COMPARATIVE PLOT OF DOCTOR AND LAWYER

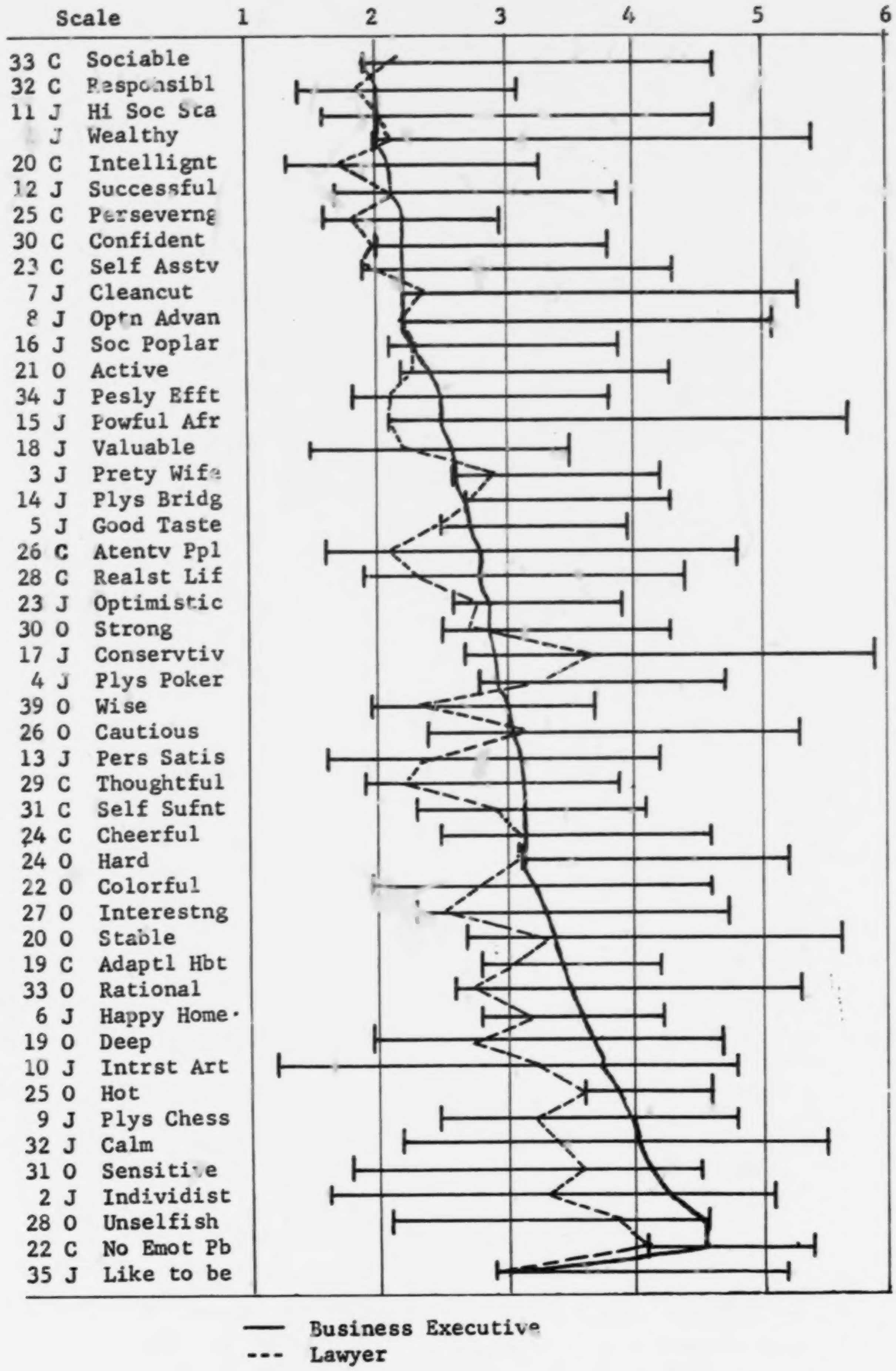

Figure 7. COMPARATIVE PLOT OF BUSINESS EXECUTIVE AND LAWYER

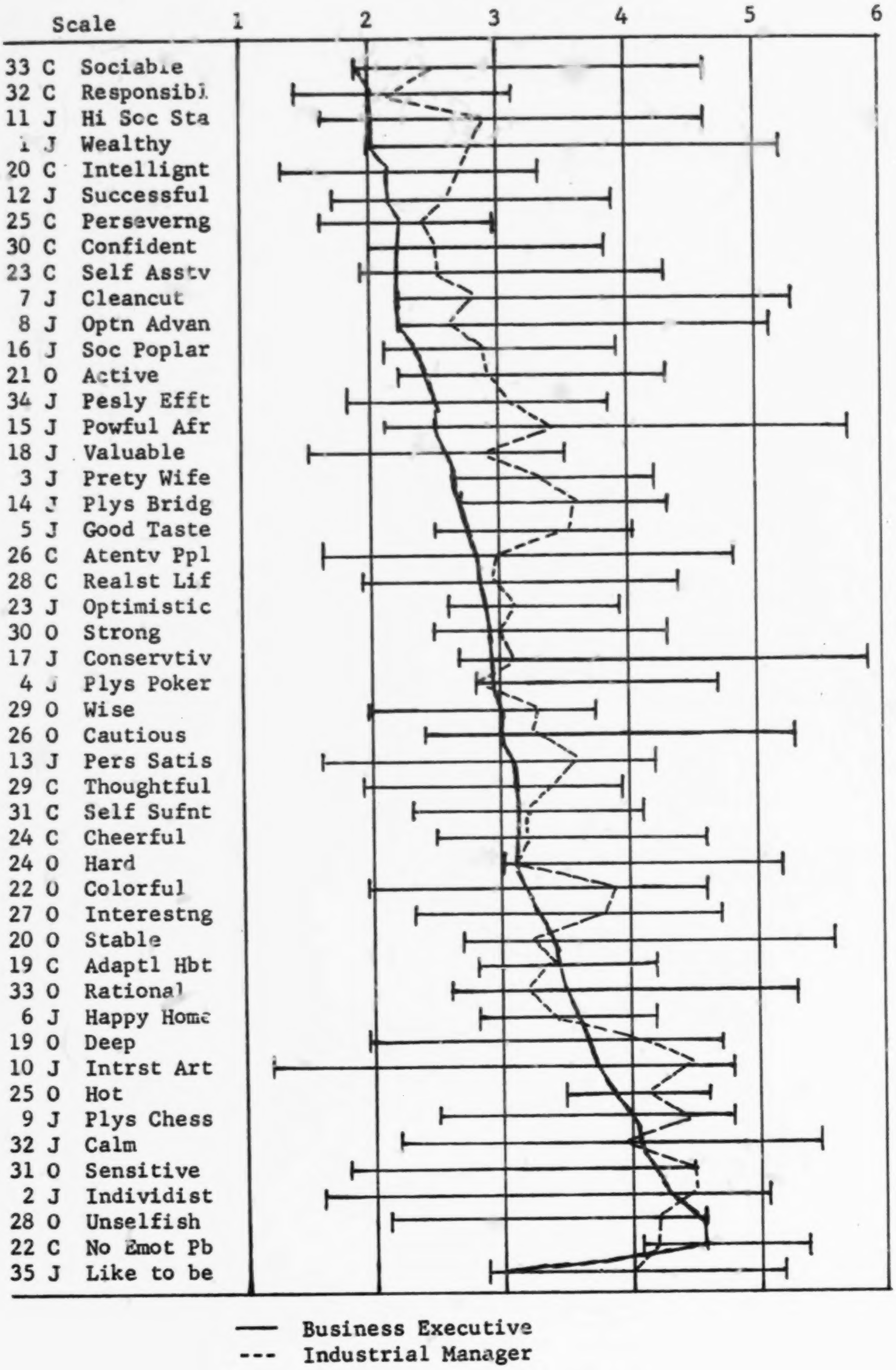

Figure 8. COMPARATIVE PLOT OF BUSINESS EXECUTIVE AND INDUSTRIAL MANAGER

by large groups of college men and women. The attractiveness of the images was singled out for testing against a separate measure of personal interest in the different occupations as career possibilities. It was shown that both ideal and real occupational preferences are related to obvious qualitative dimensions of the images.

The latter part of the chapter was devoted to a comparative presentation of sets of strategic occupations which either draw from similar student populations or have similar social functions. Possible explanations of differential recruitment power, attrition rates, and subjective satisfactions associated with the fields that are compared may be derived from these data.

Chapter III

DIMENSIONS OF OCCUPATION SPACE

Procedure

The technique of factor analysis was used to extract further information from the data that have been described in Chapter II. It is apparent from the descriptions of the occupation profiles that students were responding to the occupations with a fairly limited set of evaluative dimensions. However, it is impossible to specify the precise nature of these axes even by lengthy study of the profiles of scale means. Therefore, factor analysis was employed to discover the regularities in student responses to the array of 15 occupations. Admittedly this procedure requires that considerable information be discarded but the gain in clarity of understanding permitted by factor analysis wholly justifies the cost.

The responses from a stratified random sample of 48 students who had been tested with the Osgood form of the questionnaire and an analagous sample of 48 students tested with the Cattell form were factor analyzed separately. The 48 subjects entering each sample were selected so that 12 randomly chosen subjects represented each of four main classifications of subjects: private college men, private college women, men and women from the state university. Two matrices of intercorrelations corresponding to each questionnaire form were obtained by summing over subjects and occupations. The matrices of intercorrelations are reproduced in Tables 37 and 38 in Appendix III. This yielded two 35 x 35 matrices with individual scales as row and column entries. Each correlation summarizes the association of 720 pairs of scores contributed by 48 subjects to 15 occupations on a pair of scales. Each matrix was then factored and the factors were rotated by the purely automatic quartimax procedure. A table of rotated factor loadings for all scales are listed in Table 39, Appendix III. All of the analyses were carried out on an IBM Model 650 computer. There resulted from the two analyses a series of orthogonal factors representing the distribution in space of the response patterns of the subjects. Orthogonal factors are reported here because they are the most familiar construct for representing the spatial distribution of responses. It is quite possible that factors representing beliefs and attitudes are pictured more adequately by oblique solutions. However, the interpretation of an oblique system is difficult, relatively unfamiliar, and produces for the interpreter as much cognitive strain as gain.

The relationship between the two factor analyses of data from the two questionnaire forms merits a brief discussion. Inspection of the higher rotated factor loadings derived from the two samples (vid., Appendix III, Tables 40-43) reveals that four factors are clearly identical in both analyses. Since different subjects and different forms of the questionnaire yielded the same factor structure, considerable faith is justified in the reliability of the factors and the dependability of the analytic technique. In the discussion that follows the four main factors will be discussed without further reference to the different forms of the questionnaire. Two additional factors were obtained from each questionnaire form, but since their replicability is uncertain and their organization less clear than that of the main factors they are omitted from the report.

A further test of the reliability of these factors is provided by comparing them with factors derived from related studies. In an earlier investigation of this same general nature Beardslee and O'Dowd (1958), employing different subjects, scales, occupations, and a different factor analytic procedure, obtained a factor structure almost identical with the one that emerged here. Such consistent replication under apparently adverse conditions gives further authority to the results reported in this chapter.[8]

Factor Structure

In the following paragraphs the factors will be presented in tables, labeled, and described as a way of making them more accessible as constructs defining the attitudes of students about the occupational world. This labeling is an interpretation of the data that might be misleading, but the reader is urged to induct for himself a more accurate organization from the rotated factor loadings.

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[8] A more detailed discussion of the factor analysis of occupations questionnaires and the reliability of factor structures is contained in Beardslee and O'Dowd (1960b).

The average rotated factor loadings greater than ±.25 for scales on Factor I are listed in Table 7.[9] This axis of the response structure might best be labeled the "cultured intellectual" dimension. This dimension is defined by the properties of mind and spirit which most Americans associate with the ideal of the properly educated European gentleman. It has a distinctly Old World aristocratic flavor. The intellectual properties of intelligence, thoughtfulness and wisdom, and the aesthetic qualities of sensitivity and interest in art are central components of this factor. This dimension also includes the more amorphous attributes, deep, colorful and interesting. The high loadings of the unselfish and thoughtful scales suggest the gracious human concerns of the gentleman. A sense of great personal satisfaction and a high degree of value are the primary job characteristics associated with this factor. The cultured intellectual plays chess, avoids golf, poker and the Junior Chamber of Commerce. Finally, a fair degree of individualism and strong convictions are associated with intelligence, sensitivity and unselfishness. Several of the latter traits are derived from other questionnaires containing different scales but yielding the same factor structure.

The factor loadings for Factor II are contained in Table 8. This dimension of judgment is sharply defined as "material and social success." The scales which according to the analysis are virtually identical in usage are wealthy, high social status, successful and high opportunity for advancement. An occupation that is rated high on one of these characteristics will very likely rate high on the others. Other scales which contribute to this dimension less dramatically are power in public affairs, socially popular, cleancut, and pretty wife. Each of these characteristics is positively associated with wealth, status and success. The less desirable traits of hardness and insensitivity also join this constellation. In other studies, suburban living and

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[9] Factor loadings for the Osgood and Cattell forms are listed separately for all factors in Tables 40-43, Appendix III.

NOTE TO TABLES 7 to 10

Loading given is the loading obtained after Quartimax rotation for scales occurring only in Osgood or Cattell forms. For scales occurring in both forms, the loading given is obtained by converting both loadings to Fisher's Z, averaging, and reconverting -- see, Beardslee and O'Dowd (1960b) for details of sub-analyses.

Signs of loadings have been adjusted so that positive loadings refer to "desirable" ends of a scale (as named in tables). Negative loadings refer to opposite end of scale from that named, (*e.g.*, -.30 on "plays poker" means that a high score on the factor implies "does *not* play poker").

Table 7

AVERAGE FACTOR LOADINGS, FACTOR I[a]

Scale No.	Name	Average Loading
19 O	Deep	83
27 O	Interesting	81
13 J	Great personal satisfaction	78
29 O	Wise	76
18 J	Valuable	75
20 C	Intelligent	73
22 O	Colorful	72
29 C	Thoughtful	69
34 J	Personally effective	65
28 O	Unselfish	59
21 O	Active	57
31 O	Sensitive	55
10 J	Interested in art	54
9 J	Plays Chess	51
2 J	Individualist	50
25 C	Persevering	48
30 O	Strong	47
12 J	Successful	44
25 O	Hot	40
35 J	Would like to be	39
11 J	High social status	39
5 J	Has good taste	38
16 J	Socially popular	35
15 J	Powerful in affairs	35
28 C	Realistic about life	35
30 C	Confident	33
31 C	Self-sufficient	33
23 C	Self-assertive	33
23 J	Optimistic	27
32 C	Responsible	27
17 J	Conservative	-26
4 J	Plays Poker	-30

[a] See Note, p. 57.

Table 8

AVERAGE FACTOR LOADINGS, FACTOR II[a]

Scale No.	Name	Average Loading
1 J	Wealthy	76
11 J	High social status	70
8 J	High opportunity for advancement	66
12 J	Successful	59
15 J	Powerful in affairs	54
35 J	Would like to be	41
3 J	Pretty wife	41
24 O	Hard	40
16 J	Socially popular	35
7 J	Cleancut	34
5 J	Has good taste	31
20 C	Intelligent	28
30 O	Strong	27
34 J	Personally effective	26
28 O	Unselfish	-25
31 O	Sensitive	-37

[a] See Note, p. 57.

a general restriction of interests and experiences are components of this factor.

The third well marked factor that was discovered, Factor III, which may be labeled "cheerful sociability," is summarized in Table 9. This dimension is derived from responses to occupations in terms of the degree to which their occupants are both sociable and attentive to people. Equally important on this dimension are cheerfulness as opposed to depression, and optimism versus pessimism. This dimension also contains a reasonable amount of personal and social effectiveness indicated by the relation of confident, responsible, adaptable in habits, and realistic about life with cheerful sociability.

A fourth dimension of student evaluation, Factor IV, which is summarized in Table 10, ranges calm, cautious, stable and conservative at one end against excitable, rash, changeable and radical at the opposite end. The solid citizens on this "personal control and political responsibility" dimension are to a lesser extent conformist, cleancut and rational while their opposite numbers are individualistic, strange and intuitive. Members of the controlled and responsible occupations live in suburbia, play golf and bridge, and belong to the J.C.'s. This factor is quite interesting because it indicates the importance of the dimension of control and responsibility in evaluating occupations. A student must choose between occupations that give an opportunity for acting out impulsive needs and those that require an organized, controlled, routinized approach to the world. Surprisingly, perseverance, tendency to emotional problems and confidence are not elements of this dimension. The first two dimensions in particular were marked by scales which range from the absence of a trait to its presence, or from a low to a high degree of a property such as status or intelligence, while the control and responsibility factor has a positive and negative end. For example, on one side of the dimension is conservatism, on the other radicalism; or an occupation is associated either with rationality or intuition. Both ends of the scales composing this factor represent specific attributes.

It is true that these dimensions are a function of the scales chosen for inclusion in the questionnaire. However, many of these scales were selected to represent a variety of factors found in other studies. Other scales were included after considerable investigation of the spontaneous comments of students on occupational roles. The emergence of these factors is controlled therefore against the possibility of a biased selection of scales by the investigators.

Table 9

AVERAGE FACTOR LOADINGS, FACTOR III[a]

Scale No.	Name	Average Loading
33 C	Sociable	70
26 C	Attentive to people	69
24 C	Cheerful	69
7 J	Cleancut	45
30 C	Confident	43
32 C	Responsible	43
28 C	Realistic about life	42
6 J	Happy home life	41
16 J	Socially Popular	40
19 C	Adaptable in habits	40
23 J	Optimistic	33
5 J	Has good taste	30
3 J	Pretty wife	30
29 C	Thoughtful	28
4 J	Plays poker	27
14 J	Plays bridge	26
22 C	Has no emotional problems	26
25 C	Persevering	25

[a] See Note, p. 57.

Table 10

AVERAGE FACTOR LOADINGS, FACTOR IV[a]

Scale No.	Name	Average Loading
26 O	Cautious	71
20 O	Stable	68
17 J	Conservative	65
32 J	Calm	46
7 J	Cleancut	42
33 O	Rational	39
28 O	Unselfish	29
30 O	Strong	28
29 O	Wise	27
6 J	Happy home life	26
16 J	Socially popular	25
23 J	Optimistic	25
32 C	Responsible	25
22 O	Colorful	-25
25 O	Hot	-27
2 J	Individualist	-51

[a] See Note, p. 57.

Factor scores based on two marker scales from each factor were computed for each occupation. One marker was derived from the Cattell form and one from the Osgood form for all but the sociability factor, for which both markers were taken from the Cattell form. The factor scores for occupations on a 100-point scale are listed in Table 11.[10]

Figure 9 is a graphic representation of the position of each occupation in a four-dimensional factor space. The location of each occupation is based on the factor scores listed in Table 11.

Discussion of Factor Structure

The results of the factor analysis permit the development of some important hypotheses about the beliefs of students regarding the occupational world. It is interesting to discover that for this liberal arts student population the dimension of cultured intellect is of major importance in the evaluation of occupations. One of the important consequences of selecting an occupation is a commitment to an intellectual status and style, if not in personal convictions then in the perceptions of friends and associates. It should be noted that this dimension combines qualities central to the goals that were sought in the classical Hellenic paideia - intelligence, sensitivity and aesthetic awareness. The attribute, valuable, is associated with this factor, suggesting that it is most important in permitting a man to contribute to society. Finally, this dimension has a complexity and richness that is not matched by the others. It may well be that a man cannot wholly choose his place on this dimension because of biological and social limitations. Status in terms of this factor is highly valued, perhaps because it has the traditional appeal of aristocratic attainments and pretensions.

Material and social success is clearly the expression of a secular protestant ethic. Students do not think of this as an alternative to the ideal of Greek culture, but rather it is an independent characteristic of occupations. Ideally,

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[10] The scale means of each occupation on a factor were converted to Z scores, averaged, and rescored such that a Z score of zero equals a factor score of 50 and the largest negative Z for a factor was set equal to 0.

Table 11

FACTOR SCORES OF OCCUPATIONS ON THE FOUR MAIN FACTORS[a]

Occupation	Factors I	II	III	IV
Accountant	04	35	17	65
Artist	86	00	07	00
Business Executive	32	94	62	62
College Professor	95	27	50	41
Doctor	95	87	69	69
Engineer	56	81	66	52
Industrial Manager	17	73	49	54
Lawyer	72	96	72	49
Office Supervisor	00	38	50	58
Personnel Director	36	52	80	58
Retail Store Manager	01	42	61	55
Sales Manager	08	53	61	49
School Teacher	80	02	60	54
Scientist	90	66	00	36
Social Worker	82	04	79	49

[a] See footnote, page 63.

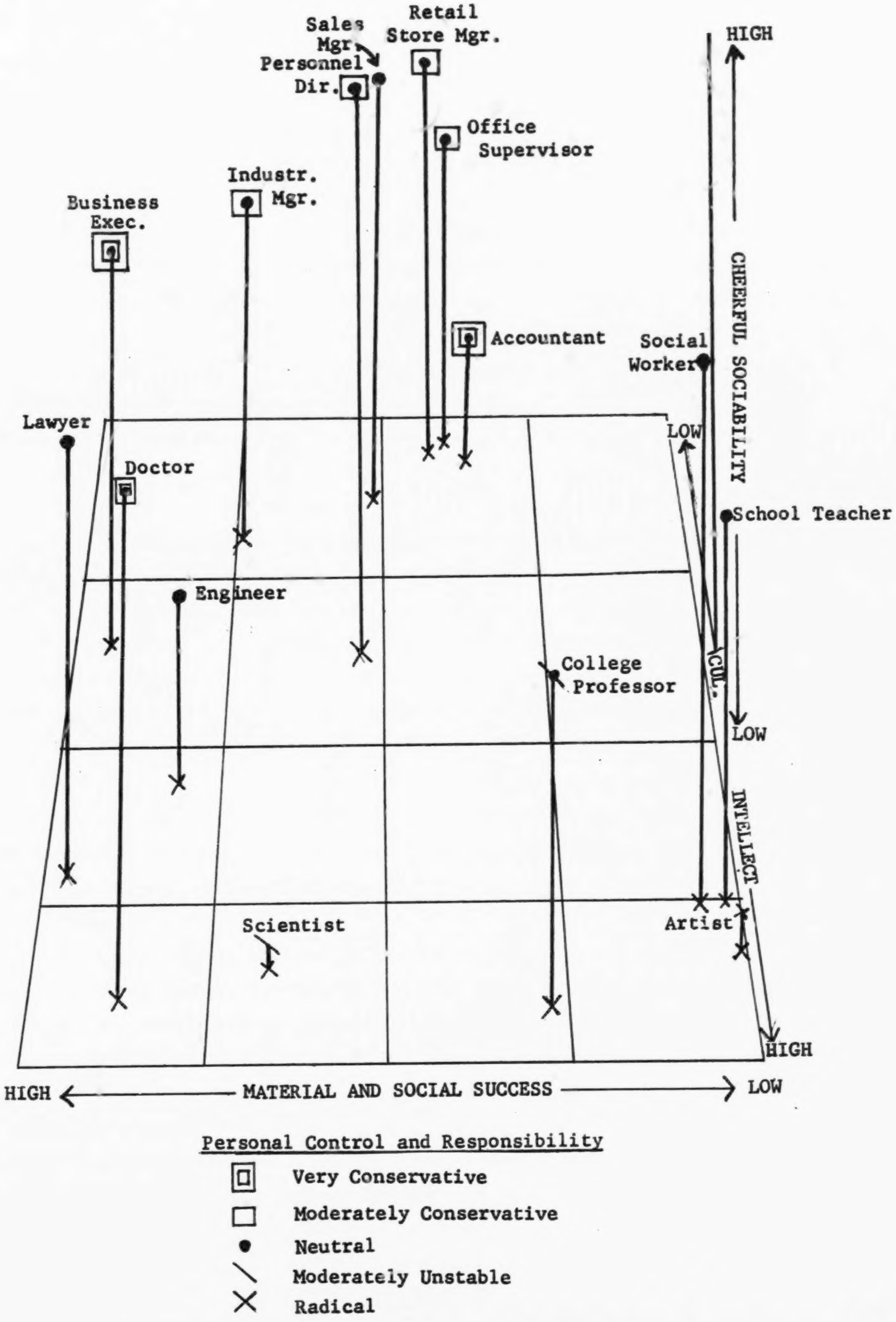

Figure 9. LOCATIONS OF OCCUPATIONS IN FACTOR SPACE

it is possible to combine these two fruits of Western culture in one occupational role, thereby participating in two great historical trends. The doctor, lawyer, engineer, scientist and business executive are all favorably located in this respect, the independent professions of medicine and law having clear superiority.

The appearance of cheerful sociability as a dimension is quite in keeping with student concern about working with others, having pleasant associates, and developing interests in people. Still, that this feature would emerge so strongly in a relatively limited sample of occupations was somewhat unexpected.

The fourth dimension of personal control and political responsibility raises some interesting points. First, it has been suggested by many writers that the "egghead", or intellectual, is politically suspect. College students, however, do not indicate this when rating occupations. They treat control and responsibility independently of cultured intellect. Some intellectuals may be untrustworthy (e.g., the artist and scientist), but others are wholly dependable (e.g., doctor and school teacher). It seems to be the case that the general classification of cultured intellectual is quite acceptable. Secondly, it is interesting to find that occupations are perceived as either giving play to impulses or requiring strict control. Apparently in selecting an occupation a person commits himself to freedom or constraint in impulse expression. This may not be a governing factor in most career decisions but it may have some force. Finally, the association of personal control and political responsibility is revealing. It ties together private and public behavior in the package that is often thought to involve intellectual characteristics. It seems that the quality of impulse life is a primary concomitant of political dependability rather than an associate of intellectual style.

Turning specifically to the location of occupations in factor space, Figure 9 provides a vivid demonstration of the clustering of occupations in the judgment of students. The two high-status independent professionals are at the positive extremes of the intelligence, success, and sociability dimensions while differing only on control-responsibility. The business executive trails behind the doctor and lawyer but shares many of their important characteristics. A second cluster is formed by the lower-status business "line" occupations. They are relatively low in cultured intelligence, only moderately successful; except for the accountant they are moderately sociable; and they are reasonably controlled and responsible except for the sales manager who is deviant on this dimension. A third discernible grouping puts the college professor, school teacher and social worker together. They score high on intellectualism, they are responsive to people, somewhat controlled and responsible, while scoring at the low end of the material success dimension. Artist and scientist share a number of properties and they might be grouped. They are both low in sociability, moderately impulsive and irresponsible, quite high in cultured intelligence, while differing mainly in success. The engineer seems to be both a junior partner in the world of independent professionals and business executives, and also a partial participant in the more rarified creative atmosphere of science.

Taken singly, the dimensions reveal some interesting properties of student perception of the occupational space. The doctor, college professor, and scientist are all strongly endowed with cultured intellect while the lower status business jobs anchor the lower end of this dimension. There is in fact no overlap between the business and professional occupations on cultured intellect. Engineer, the least intellectual of the professionals, is much higher in this characteristic than the business executive. The material and social success dimension ranges doctor, lawyer, engineer, and business executive at the high end while three service professions, school teacher, social worker, and college professor, along with artist, are located at the unsuccessful extreme. The doctor is unique in being successful while in the service of other people. The lower-status business group is intermediate in score on material and social success. Cheerful sociability is particularly characteristic of social worker, doctor, and personnel director. Business people have a moderate score on this factor while occupations associated primarily with the manipulation of symbols and abstractions, artist, accountant and scientist, are at the depressed, unsociable pole of the dimension. The fourth dimension, personal control and political responsibility, is anchored at the controlled extreme by doctor, business executive, and accountant. Artist, scientist and college professor are regarded as impulsive and radical.

The dimensions may be considered as the basis for establishing a series of planes when they are taken two at a time. These planes reveal noteworthy properties of the factor space that are hard to isolate from a complex figure. For example, when cultured intellect and social success are treated together, it appears that the intellectual is either high or low in success with the scientist alone exhibiting moderate success in combination with high intellectual attainment. In this sample of occupations moderate success and poverty of intellectual refinement are strongly associated.

The two dimensions of cultured intellect and control-responsibility reveal some interesting features when they are taken together. The doctor stands out as the major figure who is both an intellectual and a controlled individual, while the sales manager is the main figure both low in intellectual status and low in control and responsibility. From inspection of this plane it appears that the intellectual varies from very controlled to very impulsive and radical. The occupations low on cultured intellect are more restricted in impulsive and political expression and they tend to cling to the conservative side of the plane.

The plane formed by success and control-responsibility reveals two occupations, doctor and business executive, with markedly high scores on both dimensions while the artist is alone of the fifteen occupations with very low scores on both. Other occupations tend to distribute in an unsystematic pattern on the two factors.

When occupations are plotted on the dimensions of cheerful sociability against personal control and political responsibility, the negative properties grouping scientist with artist are highlighted. These two occupations score low on both dimensions. They present a picture of introverted, impulsive, undependable people in terms of the personal traits associated with them. It cannot be easy for most young people to admit that they might possess both of these negative properties.

At this point the question arises of the relative weight or importance of the four dimensions in the thinking of students. In terms of common factor variance accounted for by each factor, the dimension of cultured intellect seems to be the most important while the control-responsibility factor appears to be the least important. The alternative hypothesis, favored by the authors, is that relative importance of factors is very difficult to determine on the basis of an internal criterion of this type. The scales that were included in the questionnaires may determine to a marked degree the importance of the factor. Every effort was made to sample a variety of potentially meaningful scales but this did not guarantee equal representation of each cluster. This is vividly demonstrated by the fact that cheerful sociability is the second factor to emerge from the Cattell form and the fourth from the Osgood data. It is clearly very risky in a study of this nature to infer from common factor variance the psychological importance of each factor.

Another way of estimating the importance of a factor is to study its relationship to an external measure which can serve as a criterion. The like-to-be scale is particularly suitable for this purpose. It is answered as a statement of personal preference by the respondents in a separate section of the questionnaire. The loadings of like-to-be on the different factors should serve as an estimate of the importance of these factors in the belief system of the subjects. A second scale, the personal effectiveness rating, entered as a summary statement at the bottom of each page, also is a reasonable device for estimating the psychological importance of the four dimensions.

Like-to-be has approximately equal loadings on cultured intellect and worldly success, while its loadings on sociability and control-responsibility are negligible. This suggests, then, that the first two factors are of major and equal importance in the personal preferences of the student sample while the second two are of secondary concern. Personally effective loads most heavily in the cultured intellectual dimension; it has lower and approximately equal loadings on sociability and worldly success, and it has a small loading on control-responsibility. When the respondents assigned a summary rating to the occupations a definite ordering of the dimensions could be detected. Combining these two semi-separate criteria, the cultured intellectual dimension seems to have the greatest importance, personal control and political responsibility least importance, while success and sociability are intermediate between the two.

It is worth noting that personal effectiveness is strongly associated with cultured intellect, while like-to-be is equally associated with intellect and success. The idealized choice of an occupation brings the importance of material and social status rewards to the fore. It appears that in selecting an occupation for oneself the rewards in terms of a style of life must be substituted to a certain degree for a high ideal heavily weighted with cultured intellect.

These extensive comments on the factor analysis of student responses tell a great deal about how they organize their thinking about the occupational world and the relative positions of different fields in this belief system. When combined with the occupation profiles these data provide considerable grounds for commentary on one aspect of the value system of students.

Value Implications

At the beginning of the report it was stated without much documentation that the occupational world is of great interest to contemporary undergraduates.[11] They are able to talk at length and with ease and interest about the occupational world although they may have little or no firm understanding of its objective properties. By exploring systematically the beliefs of students about the occupations which they and their fellows enter it has been possible to obtain information from which to infer the values with which students orient to this vital area of experience. Very often values are inferred from the reactions of students to issues in religion or politics. There is good evidence at hand for believing that neither of these areas is of central concern to most students at the present time. This is extensively documented by Jacob (1957) who points to the concern of students with "religion - but not for living" and the extent of "privatism," an unwillingness to become involved with social and political issues. If one accepts the reality of the essentially self-interested quality of student values and studies the content of self-interest, then understanding of contemporary values is altered. By focussing on occupations as the key to fulfillment of self-interest, then the anatomy of self-interested values is revealed. That is, since occupations are the gateway to satisfaction of self-interest motives, the study of occupational images is an excellent device for opening the self-interest values to inspection.

Self-interest as a central feature of student ideals is apparent when other alternative external ideals are found to excite little student interest. However, when self-interest itself is analyzed it appears that to regard "self-interest" wholly as material success would be an unfair judgment of the goals of students. It is clearly the case that for the American student, in the words of Gillespie and Allport (1955), "The best way to generalize his goals seems to be in terms of the search for a rich, full life" (pp. 13-14). The rich, full life is not, however, narrowly conceived, but rather it is conceptualized in terms compatible with some of the most vital streams in Western culture (*cf.*, Wise, 1958).

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[11] This point is developed at some length in Beardslee and O'Dowd (1960a).

The emergence of the strong and clear dimension of cultured intellect from student responses points to an idealism in thinking about the occupational world that is at its worst a concern with securing opportunity for the development of rich and sensitive character. This confirms and amplifies the comments of Gillespie and Allport (1955) that variety, stimulation and excitement are vital components of the good life. Students perceive future occupations as facilitating or inhibiting the cultivation of a colorful and interesting personality characterized by depth, wisdom and value. Occupations also have implications for a person's intelligence, thoughtfulness, and sensitivity, his artistic interests and good taste, and the degree to which he is both unselfish and individualistic. Great personal satisfaction is associated with the possession of these traits. That students couple these properties in organizing their responses to occupations suggests that this model for man is foremost in their thinking. This may reflect a self-centered concern, but it is not a narrow conception of character; indeed, it is a statement of one of the major aims of a liberal education.

Students also consider the implications of jobs for worldly success important in organizing the occupational space. However, in their appraisal of this dimension they include virtually no personality traits among its most important characteristics. It seems that success is a feature of the world to be recognized and appreciated, but it has few automatic implications for personality formation. This may well explain the discrepancy between the casual attitude of youth in their seeking after success and the worry of elders over the corrupting effects of the success drive. The younger generation believes material and social success may be sought without risk to the attainment of a rich personality, and that doctors and lawyers attain both.

Concern with interpersonal relationships emerges here as it does in most studies of the values which students seek in their careers. They are extremely sensitive to the social fabric of the situations in which they will work. There is a focus on the people as much as on the tasks which are part of the job. Students can tell virtually nothing about the day-to-day work they will do in a career, but they can frequently give an extended prediction of their future contacts with others and the form these will assume. The observations of Riesman (1953) among others that the problems of personnel are central in the modern productive process are fully recognized in the responses of these students.

The last dimension is by no means the least interesting. In this dimension the importance for students of impulse control is highlighted. Occupations are arranged along a dimension from those which require the greatest personal stability and impulse control to those which permit an impulsive, unpredictable personality an opportunity for expression. That this facet of value systems is rarely reported may be a function of its infrequent inclusion in research instruments. It is not immediately obvious that one end of this dimension is most desirable. In fact, the correlation of conservative and conformist with the stable and controlled end of the dimension suggests that a middle value would be sought after by many people. It is probably on this value that the greatest disagreement is to be found among individuals on the most desirable condition for an occupation.

In summary, students respond to the occupational world in terms of the personal qualities associated with different occupations. They are primarily sensitive to the cultural and intellectual features of the occupational incumbents. Secondly, occupations are perceived both as providing opportunities to work with other people as opposed to working with objects or symbols, and as requiring differential degrees of personal-emotional control. Finally, high-level occupations provide differing degrees of success independent of their other properties. The values implicit in these judgments on a central activity area in the future of college men merit close attention in studies of student values and means for their alteration.

Chapter IV

GROUP COMPARISONS

Relative Importance of Demographic Variables

The extent to which images of occupations vary for different categories of students in the college population is of considerable interest. In most value and attitude studies marked differences are found between groups of students with different life histories in terms of their socio-economic class origins, their religious affiliations, national origins, etc. The segment of our culture in which a young person grows up generally has a measurable influence on his beliefs and values.

Occupational stereotypes, however, do not appear as variable as most belief systems. In Chapter II the high agreement among sub-samples of the total student sample indicated that this is an attitude system that has great stability when men and women, freshmen and seniors, and students from different colleges are compared. Occupational images seem to be derived from a widely distributed set of beliefs that cut across some of the major lines of demographic analysis. It has been pointed out previously that there are very large and consistent differences between profiles of different occupations while there are relatively small differences between varying groups of subjects on the same occupational profiles. In other words, the major portion of the variability in these data is accounted for by the effects of occupation titles. Relatively small portions of the variability are associated with the background characteristics of the subjects.

Statistical assessment of the relative importance of the different characteristics of the samples of subjects studied was carried out in the following way. Data from 11 sampling units were analyzed. The sampling units were developed by dividing the freshmen and seniors at each of the three private colleges into six groups and carrying out the analogous four-way division at the public university. An eleventh sample was obtained from an additional sample of Wesleyan freshmen tested in connection with a separate study. The profiles of means for all 720 items (15 occupations x 48 scales) were intercorrelated for the 11 sampling units. The resulting 11 x 11 matrix of intercorrelations contained measures of the association among sampling units as row and column entries. This matrix was factored to obtain an estimate of the relative weight of the different sources of variability in the data. The percentage of the common factor variance accounted for by each of five identifiable unrotated factors reveals a remarkable picture. A main factor representing the agreement among all samples on the profiles of occupations which might be called a "common culture" dimension accounted for 94% of the variance. A factor accounting for differences between men and women absorbed 1.3% of the variance. The difference between private and public colleges accounted for another 1.1% of common factor variance. Freshmen and senior differences accounted for 0.3% of variance, while a fifth, less clear factor, apparently related to the time at which tests were given, was associated with 0.4% of the variance. Specific and error variance accounted for 3.0% of the variability in this matrix. Very similar results were obtained when the engineer profile alone was analyzed by the same method. The procedure did not permit a direct estimate of the importance of socio-economic and other background factors. Other analytic procedures would yield different estimates of the importance of the variables noted here, but the order of magnitude is almost certainly reliable.

The implication of this analysis is that when profile patterns held by different groups of subjects are compared there is virtual unanimity on the characteristics of the occupational world. The differences in belief stemming from traditionally important determinants of attitudes and beliefs are in relative terms extremely small. In reading and interpreting differences reported in this and the following chapters the reader is cautioned against over-interpretation. The differences reported are significant and interesting, but they should not be allowed to dominate the vast agreement that exists within student culture.

In order to study the effects of background characteristics on student attitudes the data were analyzed by each of several variables taken singly. That is, the sample was divided on the basis of a single demographic factor at a time and the resultant groups compared. The characteristics of the samples that were tested are the following: men versus women, private versus public college students, freshmen versus seniors, comparisons of students from three socio-economic strata, and students from professional homes versus students from business homes. This list of comparisons is in order of the importance of the variables. The largest number of differences between occupational profiles was observed in the male-female comparisons, while very little disagreement was associated with differences in socio-economic origin or family occupational setting.

Comparison of Men and Women

The rest of this chapter will be devoted to the analysis of comparisons between men and women in their images of occupations, and a discussion of the implications of the findings. This set of comparisons has been chosen for extended and detailed discussion for three reasons. First, the lowest level of agreement on the characteristics of particular occupations is associated with the male-female comparison. Second, the questionnaire forms requested additional information on the attitudes and expectations of women that permits rather extensive discussion of results. The meaning of the common and divergent beliefs held by men and women can be pursued further than is possible for differences in beliefs associated with other background variables. Third, the beliefs of men and women on the meaning of occupations are of particular psychological importance. It is of considerable interest to discover in what ways men and women agree and differ in their perception of the jobs held by men. The occupation of her husband determines the way in which a woman will participate in the American dream. The occupation of her future husband is for every college woman an important question. If men and women were in fundamental disagreement on the implications of particular occupations, one could predict widespread marital difficulties both in adjusting to non-complimentary expectations about the future, and in cooperating in the family venture of establishing the husband securely in his chosen field.

Two ways of indicating the characteristics of differences between groups of subjects will be employed in the following discussions of group comparisons. One of the indicators that will be used is the average number of scales per occupation that are significantly different in the statistical sense when two groups of subjects are compared on the 48 scale values of all 15 occupations, a total of 720 comparisons (15 x 48). An empirical estimate indicated that an average of 2.7 significant differences between two occupations are to be expected by chance. The likelihood is only 1 in 20 that an average of 4.2 scales per occupation will be significantly different when two groups are compared on all 720 items. On any single occupational comparison significant differences on 7 or more scales between two groups is a significant number.[12] When men from Wesleyan and women from the private liberal arts college were compared an average of 16.9 significant differences per occupation was observed. Men and women at the state university differed on a mean of 16.1 scales per occupation. These means are large and highly significant. They support the statement that men and women are not in full agreement on the properties of occupations.

A second measure that will be used provides an estimate of the consistency of the observed differences between two groups in a comparison, when two independent samples are employed. The measure consists in a correlation of the differences between the two groups compared with the differences between two other analagous groups. For example, the differences between men and women at the private liberal arts colleges correlated +.69 ($P < .001$) with the differences between men and women at the state university. This means that the male-female differences in one comparison are highly predictive of those in the other. Male-female differences in occupational images are consistent at both private and public colleges. This analysis was replicated twice, controlling for the nature of the college. When differences between freshmen men and women at the private colleges were compared with differences between senior men and women a correlation of +.65 was obtained, while the same analysis at the state university yielded a correlation of +.68. These values assert that the male-female differences have great stability and are relatively independent of one other important variable, the type of institution.

The amount of disagreement on the characteristics of occupations that appears when men and women are compared is unevenly distributed among the occupations. Table 12 indicates the differences between men and women in the ratings of all

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[12] A more extended discussion of this issue is located in Beardslee and O'Dowd (1960b).

Table 12

DIFFERENCES BETWEEN MEN AND WOMEN IN RATINGS OF OCCUPATIONS

	Number of Significant Differences					
Occupation	Male score more favorable than Fem.		Female score more favorable than Male		Total	
	Priv.	Pub.	Priv.	Pub.	Priv.	Pub.
Accountant	4	1	7	6	11	7
Artist	11	4	12	8	23	12
Business Executive	3	2	13	13	16	15
College Professor	3	1	19	17	22	18
Doctor	0	1	21	26	21	27
Engineer	2	0	19	28	21	28
Industrial Manager	5	2	4	4	9	6
Lawyer	3	2	27	27	30	29
Office Supervisor	5	7	3	1	8	8
Personnel Director	4	1	6	13	10	14
Retail Store Manager	1	0	9	6	10	6
Sales Manager	10	1	2	3	12	4
School Teacher	2	1	9	27	11	28
Scientist	4	2	12	7	16	9
Social Worker	2	1	31	30	33	31

15 occupations. The most general result in Table 12 is the consistently larger number of favorable scores attributed to occupations by women compared with men. This is partly the result of a tendency of women to use the scales more freely than men. Women are more prone to use the extreme values both positive and negative than men. Since the occupations are relatively attractive high-level fields, inflation in the positive direction is more pronounced for women. However this cannot account entirely for the data in Table 12. It is particularly inadequate to account for the rather marked differences among occupations in the discrepancy of male-female views. Analysis of the occupations that are markedly more attractive in women's ratings gives some insight into the meaning of female optimism.

The social worker is the occupation on which the favorable perception of women contrasts most sharply with male pessimism. Women also are considerably more favorable than men in their view of doctor, engineer and lawyer. Taking these one at a time, the social worker is seen by women compared to men in general terms as more intellectually competent, but not more aesthetically sensitive. That is, the social worker is perceived by women as more richly endowed with intellectual and emotional resources, while men and women agree on his potential for aesthetic experience. Women also score the social worker higher on a variety of masculine potency traits such as strong, active, self-assertive and confident, among others. Women see the social worker as somewhat more successful and also somewhat more emotionally controlled than do men. The social worker is, according to women in contrast to men, considerably more intelligent and masculine while he shows smaller but important gains in social and material success and in personal control and political responsibility. It should be noted that in absolute terms the basic profile of social worker is not markedly different when men and women are compared.

Women, in comparison with men, give the doctor an advantage by scoring him higher in the intellectual properties of intelligence, wisdom and richness of perception, but not in artistic sensitivity. The doctor is also believed by women to be a more friendly, sociable person; women seem less prone than men to think of his concern for people as being professional rather than personal. Finally, women heighten somewhat the doctor's success and emotional control. In other words, a very attractive image from the male viewpoint is given even higher scores on a set of outstanding characteristics by women.

Of the remaining occupations, business executive, college professor and school teacher are viewed more favorably through the eyes of women. The business executive when scored by women is granted more emotional control and a higher level of success than he is by men. The college professor is rated higher by women in intellectual sophistication with emphasis on the strong, active, deep, confident masculine facet of this dimension of evaluation. In the case of school teacher women lay added stress primarily on his all-round intellectual competence. He is seen by women as more intelligent, aesthetically oriented, emotionally complex, and vigorous. The public university women are farther from public university men in assigning these traits to school teachers than private college women are from private college men. The state university women also perceive the teacher to be more friendly and sociable than the men at the same university; this difference does not occur at the private college.

Men and women are in substantial agreement on the rest of the occupational images. The number of scales on which the remaining occupations differ when men and women are compared are in most cases more than would be expected by chance, but in the light of the differences in scale use patterns of men and women it is probably unnecessary to discuss them with the exception of artist. Women stress more heavily than men the rich intellectual potential of the artist. Women view the artist as an exciting figure with deep and varied sensitivities. Men, on the other hand, are less likely than women to describe the artist as lacking in impulse control and political responsibility. For women, then, the artist is more dynamic intellectually at the same time he is more dominated by his impulses.

The tendency of women to score occupations as more attractive is further understood when the scales are studied in relation to the entire set of occupations. In rating most occupations, women differ from men in emphasizing the scales grouped under cultured intellect and personal control-political responsibility. Women score occupations consistently higher than men on these two dimensions. Women also tend to see many occupations as more sociable than do men, but this is a less dramatic tendency than that for the first two dimensions. On material and social success scales men and women rate occupations approximately the same. In summary, women are in agreement with men on the more objective dimensions of the occupational world, the observable material affluence and the demonstrated sociability of people. They are less in agreement on the qualities of motivational, intellectual and emotional life which are clearly more a matter of judgment and inference than of direct observation.

Women's Views on a Man's World

It might be argued that college women have little conception of the occupational objectives and opportunities that are appropriate for men. They may be even less likely to have thought of this in relation to their own future as wives and mothers. In order to obtain an estimate of their possible involvement in the occupational futures of men the following questions were included in the female questionnaire:

> Think about or imagine the man whom you might wish to marry.
> What would please you most as an occupation for him? ______________
> What would please you least as an occupation for him? ______________
> What do you think is the most probable occupation
> of the man you might wish to marry? ______________

All three of these questions were answered by over 90% of the women. There is no doubt that college women find it quite easy to consider marriage and to relate their future to a specific occupation for their husbands. Only 3% of the 492 respondents stated that their future husbands should work at whatever they wished to do. The marital aspirations of women in terms of husbands' occupations are presented in Table 13.

It is clear from the data summarized in Table 13 that the ideal husband is very often a high-status professional and only rarely a man employed in business and industry. If he is a member of the business group he classifies as an executive. These are the fields for which men and women give attractive images, and they are the occupations which women generally rate more favorably than men.

Table 13 also provides information on the relation between the fantasy responses (most pleasing husband) and the realistic expectations of the women (most probable husband). This comparison shows that doctors and lawyers are in short supply as potential husbands, while businessmen are expected to fill the gap. State university women are more pessimistic than their private college counterparts on the likelihood of marrying a husband in an ideal occupation. The

Table 13

PERCENTAGE OF WOMEN INDICATING
MOST PLEASING AND MOST PROBABLE HUSBAND
BY OCCUPATIONAL CATEGORIES OF HUSBANDS

	Private College Women (N=219)		Public College Women (N=273)	
Occupation	Most Pleasing (%)	Most Probable (%)	Most Pleasing (%)	Most Probable (%)
Artist	2	-	3	3
Business - staff (Executives)	11	26	8	11
Business - line (Middle Management)	2	6	1	13
College Professor	9	7	8	6
Doctor	22	12	19	6
Engineer	5	8	10	11
Lawyer	24	19	19	7
School Teacher	4	3	2	8
Scientist	1	3	5	6
Professional (other than above)	3	3	10	10
Other Occupations and No Answer	17	13	15	19

public college women also have somewhat lower expectations in the business area. Their probable husbands are more likely than those of the private college group to be from the middle ranks of management. These findings suggest that many college women already expect to attain a less glamorous though not necessarily less opulent style of life than the optimum offered by the culture. It is apparently very desirable to share the rich intellectual and cultural atmosphere that would suit a professional husband. If this is unattainable, then the comfortable if less interesting life of a businessman's wife is quite acceptable. It is worth noting that no one specifies an occupation for her husband that is classifiable as white-collar business or skilled labor. This occurs in spite of the fact that 30% of the public university women come from families of white- and blue-collar workers (vid., Appendix III, Table 28).

Responses to the query about the least pleasing occupation for a husband are somewhat more complex. Both public and private college women agree that an unskilled worker would be most undesirable as a husband; 20% of the public college group and 11% of the private college group give this answer. Forty-one percent of the private college women mention lower echelon business jobs as unsuitable occupations for their husbands. Half of these responses are contributed by accountant. The public university women nominate lower echelon business jobs in 33% of the cases, but only a third of these are accountants. The occupations that have undesirable images dominate the "least pleasing" responses, while professions of high and middle rank are listed as least pleasing for one's husband by less than 10% of the women. As noted earlier, men and women are in substantial agreement on the features of the lower level business occupations.

Another way of testing the understanding that women possess of the male world of occupations is to compare the scores men give on the like-to-be scale with the estimate provided by women of what college men would like to be. The means and ranks in Table 14 represent the ratings of their own desires by men and the estimates by women of the desires of college men. The scores in Table 14 show that women exaggerate the absolute attractiveness for men of a group of high-status occupations: law, medicine, engineering and business. But if the rank order of the attractiveness of occupations is compared for men and women (correlation of ranks = +.78), it is clear that women are quite accurate in their judgments. Women are notably inaccurate only in gauging the

Table 14

MEAN VALUES AND RANKS OF MALE LIKE-TO-BE SCALE FOR MEN AND WOMEN

	Men's Like-to-be Score (N=411)		Women's Perception of Men's Like-to-be Score (N=492)	
Occupation	Mean	Rank	Mean	Rank
Accountant	5.16[a]	15	4.35	11
Artist	4.16	10	4.95	14
Business Executive	3.01	4	1.59	4
College Professor	2.91	1	3.16	7
Doctor	2.96	3	1.50	2
Engineer	3.80	7	1.52	3
Industrial Manager	4.01	9	2.95	6
Lawyer	2.93	2	1.44	1
Office Supervisor	4.75	13	4.50	12
Personnel Director	3.89	8	4.10	8
Retail Store Manager	5.01	14	4.68	13
Sales Manager	4.66	12	4.29	10
School Teacher	3.45	6	4.23	9
Scientist	3.41	5	2.10	5
Social Worker	4.58	11	5.16	15

[a] A value of 1.0 represents the highest desirability and 7.0 the lowest desirability.

relative appeal for men of college teaching. They underestimate to a mild degree the willingness of men to contemplate art, school teaching and social work as career possibilities. On the other hand women rate accounting, engineering and industrial management as relatively more desired by college men than the men themselves do. In general it appears that women underestimate the willingness of men to consider the desirability of social service fields, while they overestimate the appeal for men of the vigorous industrial roles.

It is worth noting that the occupations rated unusually attractive by women in absolute terms are the same occupations for which women produced more favorable profiles than men. It appears that from the standpoint of women it is possible to view the male occupational world in more vivid terms. Since the woman is not so apt to project herself into the alternative occupational roles she can operate with a reduced sense of the great consequences of choosing an occupation.

Naturally college women do not expect to enter in great numbers these high-level occupations upon graduation or after professional training. Although they find it possible to express views on the occupations with which possible husbands might be associated, many college women are in the awkward position of not knowing the length of time in which they will of necessity be participants in the occupational scene. Table 15 reports the post-college expectations of women. Freshmen and seniors are tabulated separately to highlight the difference in outlook characterizing the two groups.

The data from the two samples make a great deal of sense. Incoming freshmen expect that on leaving college they will embark on a primarily domestic career. The seniors, in contrast, are much more likely to expect an extended period of employment before settling down to married life. The relatively greater percentage of women with career expectations at the public college may come as a surprise to some observers. These figures are of course influenced by the selective attrition of young women who enter college with marital interests uppermost. The large number of senior women who are without marriage plans have not abandoned family concerns, but they must plan to support themselves for an indefinite period in the future. The occupations that these "career women" expect to enter are listed in Table 16. Freshmen and seniors are tabulated separately to illustrate the diversity of women's views on this point at both extremes of the college experience.

Table 15

CAREER ASPIRATIONS FOLLOWING GRADUATION OF WOMEN COLLEGE STUDENTS

	Private College Women (N=219)		Public College Women (N=273)	
	Freshmen %	Seniors %	Freshmen %	Seniors %
1. Home and Family Career only	43	23	32	16
2. Home and Family plus a job (either part-time or full-time)	29	35	30	28
3. Full-time Job without plans for marriage	29	42	38	56

Table 16

OCCUPATIONAL INTENTIONS OF COLLEGE WOMEN WHO EXPECT TO WORK AFTER GRADUATION

Occupation	Private College Women (N=219)		Public College Women (N=273)	
	Freshmen %	Seniors %	Freshmen %	Seniors %
School Teacher (Primary and Secondary Grades)	25	23	40	36
Research Assistant (Laboratory Technician, etc.)	14	14	12	14
Office Worker (Clerical and Secretarial)	2	20	4	5
Social Worker	11	-	7	5
Artist, Writer, Musician (etc.)	15	14	2	6
High-status Professional (College Professor, Doctor, Lawyer, and Scientist)	11	5	5	4
All other	9	9	19	20
No answer	12	16	11	10

From the percentages in Table 16 it is clear that women expect little opportunity to share in the images which they have scored so highly for the occupational world of men. Even at the private women's college where the level of family income would permit many of the students to seek graduate degrees in their chosen fields only a minute percentage of the women aspire to the prestige professional roles. A fair percentage of the private college women hope to find an outlet in the performing arts while the state university women concentrate rather highly in teaching. In general, women who look forward to work after college expect to work in service oriented activities or in roles that support men who make the decisions and gain the primary rewards. College women do not see themselves sharing in the highly attractive occupational roles whose values and desirability they fully perceive.

The answers of women to the question of what they would like to be in the occupational world under ideal conditions supports the belief that women also would like to share in the rich and rewarding images of occupations. The data from the like-to-be question, specifically aimed at the ideal aspirations of women, are summarized in Table 17. Table 17 indicates that women would most like to be doctors, college professors or lawyers. Their fourth choice of artist which is reflected in the actual occupational intentions of private college women implies a sex-typed role is operating here. The next two choices in preferential order, school teacher and social worker, indicate that these relatively available roles for women are valued, but not above the high-status professional opportunities. Business and management activities are seen by women as least appropriate for them.

By way of summary, the most important finding reported in this chapter is that college men and women are in great agreement on their conceptions of occupations in terms of the behavior, personality and style of life expected of their members. The differences that are found in a comparison of images derived from the responses of men and women are larger than those arising from any other sociological features of the total population. However they represent but a small portion of the variance in the entire assemblage of data. These male-female differences are primarily accounted for by the tendency of women to give more favorable images for the high-status professional and business fields. They elevated in particular the more abstract and subjective properties of these occupations.

Table 17

AVERAGE VALUES AND RANKS OF FEMALE LIKE-TO-BE SCALE FOR WOMEN AT TWO COLLEGES

	Private College Women (N=219)		Public College Women (N=273)	
Occupation	Mean	Rank	Mean	Rank
Accountant	6.20[a]	15	5.87	15
Artist	2.81	4	3.25	6
Business Executive	2.90	5	3.99	9
College Professor	2.71	2	2.86	1
Doctor	2.57	1	2.94	2
Engineer	4.54	10	4.40	10
Industrial Manager	5.84	13	5.41	14
Lawyer	2.77	3	2.99	4
Office Supervisor	5.81	12	5.11	11
Personnel Director	[illegible]	9	3.55	8
Retail Store Manager	5.75	11	5.30	12
Sales Manager	5.91	14	5.34	13
School Teacher	3.47	7	2.98	3
Scientist	3.38	6	3.43	7
Social Worker	3.73	8	3.00	5

[a] A value of 1.0 represents the highest desirability and 7.0 the lowest desirability.

Men and women were in general agreement on the objective qualities of the success and sociability of occupational groups. The general importance of occupational images was strongly supported by the responses of women that they would like to marry (in an ideal world) members of those professions with the most favorable images. Women demonstrated accurate estimates of the career aspirations of men, and further indicated that they too have similar values when thinking of the occupational roles they would most like to enter. In reality, of course, women generally expect to enter jobs that will allow them to be self-supporting until they marry. They are not permitted the luxury of actively contemplating occupations that might be highly satisfying or rewarding.

Chapter V

GROUP COMPARISONS - BETWEEN COLLEGES

Comparison of Private and Public College Students

The samples selected for inclusion in this study permit a comparison between representatives of highly selective small private liberal arts colleges and a state university. There is little in the way of direct comparative data on the attitudes of students in these two types of colleges. The Cornell Values Study will ultimately provide some grounds for comparison, but extensive analyses of student attitudes in terms of types of colleges are very rare. In part this stems from the fact that colleges are generally believed to differ greatly from one another, casting doubt on any limited sample of institutions. It is also due to the fact that few self-studies of individual institutions have employed and reported findings on the same attitude measuring instruments. The Allport-Vernon Study of Values scale is a clear exception to this statement. The comparison reported in this chapter is intended to focus some attention on the possible value of further studies of this nature.

It should be clear from the beginning of this discussion that the students at these two types of colleges are quite different. Not only are they in different educational settings with different pedagogical possibilities, but also the students represent different segments of the total population. Whatever differences are found between the two types of institutions may be attributable to any of a complex of factors. It is not possible at this time to estimate the contribution of separate variables to the observed differences between students at the two types of schools. The comparison of matched samples of students from the two types of schools has not yet been carried out.

The striking difference between students at the two types of schools is illustrated by inspection of their socio-economic origins. The socio-economic origins of students at the three colleges, estimated from the occupational status of their fathers, are presented in Table 18.[13] The men and women within each

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[13] A modified form of the classification scheme of Warner, Meeker, and Eels (1949) is followed in Table 18.

Table 18

OCCUPATIONAL STATUS OF
FATHERS OF COLLEGE STUDENTS[a]

Occupational Status	Wesleyan (N=154) %	Private College Women (N=219) %	State University Men (N=257) %	State University Women (N=273) %
A. High-status Professional (Doctor, Lawyer, College Professor, etc.)	32	40	11	11
B. Lower-status Professional (School teacher, Pharmacist, Librarian)	3	6	5	8
C. High Managerial and Entrepreneurial (Executive positions)	14	21	5	5
D. Middle Managerial and Entrepreneurial (Managers)	27	26	19	23
E. Lower Managerial and Small Enterprise	9	5	19	21
F. White- and Blue-Collar Workers	5	2	41	29
G. Other, or Uncodeable	10	-	-	3

[a] See footnote, page 90.

academic setting are very similar in terms of the distribution of their families among the occupational strata. When the two institutional setting are compared the higher status of the private college students becomes very clear. The relative predominance of high-status professional and business fathers at the private colleges is in striking contrast to the frequency of lower managerial and wage-worker fathers of the state university students.

These differences are not clearly represented in the occupational aspirations of the private and public college men. Surprisingly, the two groups of liberal arts students have very similar aims. These represent, of course, a much higher relative aspiration for the public college student. The relevant data on student aspirations are recorded in Table 19. For both groups of students professional roles account for the majority of occupational aims. This represents a shift from the business affiliation of their fathers for many of these students. For the public university men it often requires the long reach from blue-collar fathers to high-status professional sons. In summary, then, the occupational aims of liberal arts college men are reasonably similar at both of the colleges studied. The private college men are somewhat more likely to aim at the highest status positions, while the public college men more frequently seek lower-status professional occupations. These similarities of aim are based on larger diversities in socio-economic origins. Therefore differences in outlook between the two groups of students are most likely to be a function of their family backgrounds and the influence this has in giving meaning to their occupational ambitions.

With these background factors in mind, the similarities and differences in the occupational images held by private and public college students can now be studied. An average of 12.8 scales per occupation were significantly different when private and public college men were compared. The analagous comparison of women students yielded a mean of 14.5 significantly different scales per occupation. Although relatively large, these differences are not as large as the differences produced by a comparison of the images held by men and women. The differences between the private and public college male samples correlated +.44 ($P < .001$) with the differences between the two female samples. This indicates an adequate level of consistency in the private-public differences, but it is less impressive than the stability of male-female differences reported in the preceding chapter. A further test of the consistency of differences was provided

Table 19

OCCUPATIONAL STATUS ASPIRATION
OF MALE COLLEGE STUDENTS

Status Aspiration	Wesleyan (N=154) %	State University Men (N=257) %
A. High-status Professional (Doctor, Lawyer, College Professor, etc.)	52	41
B. Lower-status Professional (School Teacher, Pharmacist, Librarian)	10	28
C. High Managerial and Entrepreneurial (Executive positions)	18	3
D. Middle Managerial and Entrepreneurial (Managers)	5	8
E. Lower Managerial and Small Enterprise	-	2
F. White- and Blue-Collar Workers	-	-
G. Other, or Uncodeable	16	18

by correlating the differences in mean scores between private versus public freshmen men with differences between private and public senior men. This device provides a way of replicating the comparison with sex held constant. The correlation between these comparisons was +.48, and the analagous comparison for women also yielded a +.48 correlation coefficient. A final replication of the analysis controlled for the effect of year in college by correlating the differences between freshmen men at the private and public colleges with differences between freshmen women at the two types of colleges. The resulting correlation, +.43, when year in college was controlled, provides added evidence of the stability of institutional differences. This, then, is a well established relationship which is statistically significant but less powerful than the relationship between the scores of men and women.

As in other comparisons between categories of subjects, some occupations are scored differently by the two groups while others are accorded quite similar ratings. Table 20 represents the distribution of significant differences when private college students are compared with public university students.

Inspection of the data in Table 20 reveals that public university students give consistently higher ratings to occupations than private college students. This is partially a scale use effect, but the scales which contribute to these positive scores are not drawn at random from the four main dimensions of meaning. Both men and women at the state university attribute higher material and social success to virtually all occupations than do their private college peers. From the viewpoint of the public college young people most of these high-level occupations enjoy greater wealth, status, success and power than they do according to the private college group. The lower initial socio-economic status of the public college men and women may account for the greater emphasis on this dimension. The attributes of cultured intellect also are associated with most occupations to a higher degree by the public college youths. Since this implies a most desirable way of life the effect of perspective on public college judgments can work here in the same way as with success. Separate analysis of a sample of lower status subjects has not yet been carried out as a test of this hypothesis. Sociability and control-responsibility do not contribute as much to the relatively favorable profiles generated by the public college

Table 20

DIFFERENCES BETWEEN PRIVATE AND PUBLIC COLLEGE STUDENTS IN RATINGS OF OCCUPATIONS

	Number of Significant Differences					
	Private College Score More Favorable than Public College Score		Public College Score More Favorable than Private College Score		Totals	
Occupation	Men	Women	Men	Women	Men	Women
Accountant	1	0	27	31	28	31
Artist	4	8	3	3	7	11
Business Executive	5	8	1	1	6	9
College Professor	9	12	10	11	19	23
Doctor	2	1	6	8	8	9
Engineer	1	3	5	13	6	16
Industrial Manager	2	0	16	21	18	21
Lawyer	4	3	6	2	10	5
Office Supervisor	0	1	13	10	13	11
Personnel Director	7	1	5	9	12	10
Retail Store Manager	1	1	14	8	15	9
Sales Manager	5	0	4	15	9	15
School Teacher	2	2	11	18	13	20
Scientist	2	4	12	8	14	12
Social Worker	2	4	12	12	14	16

sample. If the relatively more favorable profiles of public college students were simply the result of a scale use effect, it would be quite unusual to find such a concentration of differences in only two of the four factors of scales contributing to difference between two groups.

In the profiles of individual occupations two sets of occupations are treated more favorably by the public university students than the private college students. First, a group of business occupations consisting of accountant, industrial manager, office supervisor and retail store manager are scored as more attractive by the public college students. Second, the school teacher and social worker, from the service oriented professions, are rated as more attractive by the public college sample.

In the case of the accountant, he is perceived by the public university students as a considerably less unattractive figure than he is by the private college people. He gains stature on three dimensions from the public college vantage point. The entire breadth of the cultured intellect axis is scored more favorably by the state college students. The accountant gains in intellectual power, artistic sensitivity, forcefulness and independence. A greater measure of both success and sociability are also associated with the accountant by the state university men and women. It is only on the control and responsibility dimension that the accountant is rated the same by both groups of students. Although the accountant is hardly the ego-ideal of state university students, he is brought somewhat closer to the range of traits that would make him at least a tolerable neighbor.

The industrial manager image is also stronger among the public university population. He gains strength in the cultured intellect range on a broad spectrum of items when public and private college students are compared. He shows equally impressive advantages in material and social success, but he is not rated differently by the two samples of students on either sociability or control-responsibility. For the state university students the industrial manager is more culturally and intellectually sophisticated and more successful in the material and social realms than he is for the private college undergraduates. The office supervisor provides a less dramatic version of the same pattern. The public university students rate him higher on the intellectual and success dimensions than do students at the private schools.

Although the retail store manager is generally favored by the public university people, the pattern of differences is difficult to interpret. Men and women do not agree on the terms of the differences, and the significant scales do not form a clear pattern. About all that can be said is that the state university people compared to public college students are more favorably disposed toward the retail store manager.

More favorable ratings are given to school teacher and social worker in almost identical terms by public in contrast to private college students. Both of these roles are regarded more favorably on all four main evaluative dimensions. It appears that the public university people have a generally higher regard for these fields than do private college students. Even on control-responsibility these two occupations register gains on a dimension where the general public university optimism was not consistently expressed. These are clearly more acceptable and perhaps respectable occupational alternatives for men according to the state university segment of the college population.

Private and public college students also differ on the properties of the college professor. Compared with the private group the public college students rate him higher in worldly success, personal control and political responsibility, and what appears to be masculine vigor. On the other hand, the private college sample scores him higher on emotional depth and artistic sensibility. He represents greater stability and solidity to the public college undergraduates, while for the private college students the emotional and personal richness of his life is emphasized. This would suggest that the meaning of college teaching is quite different for people with different backgrounds and experience. C. Wright Mills (1951) discusses this hypothesis but few writers have pursued its implications in an empirical vein.

An interesting reversal in the main trend of private-public differences is provided by the business executive. This occupational role is rater higher on worldly success by the private college students in spite of the strong tendency of public college students to rate most occupations higher in success. Several items on each of the other dimensions rated higher for business man by the private college people. There was a slight tendency in these data for the high-status professions and occupations to be slightly more favorably regarded by the private than the public university students. To put it another way, the private university students differentiated the high- and low-status occupations more widely than the public university undergraduates.

From these observations on the characteristics of the images of occupations held by students at private and public colleges, it is apparent that each group approaches the occupational world with somewhat different conceptions and expectations. That this is a general difference of outlook is attested to by the consistency of the differences for both men and women. The more favorable attitude to teaching and social work is consistent with the larger percentage of public than private college men who plan to enter the lower-status professional area. However, the favorable response to accountant, industrial manager, and retail store manager is not reflected in a high percentage choice of the lower-status business and industrial fields by public university men (vid., Table 19). It may be that the difference in outlook noted here distinguishes the populations that select these two types of colleges. This and alternative explanations and implications of this finding remain to be studied.

Comparison of Students at Two Private Colleges for Men

Although two private men's liberal arts colleges were included in the study, the data from only one of the colleges has been reported in the earlier chapters. There were three reasons for deciding to limit the use of the data from the second private men's college. First, the similarity between the students at the two colleges is so great as to make them almost indistinguishable in terms of population characteristics. Second, the questionnaire returns from the seniors at the second college did not represent a satisfactory percentage of the sample due to unavoidable technical difficulties. Third, reasons of economy in data analysis forced a choice between extensive analysis of the second men's college data or the pursuit of more detailed analyses of selected segments of the total data. It was judged a better use of time and energy to do the latter.

The similarity between the two colleges is much greater than authorities at either school suspected. Although the two colleges are in the same general category it was supposed that they each appealed to a different clientele. From the responses to the questionnaire the second men's college looks like a re-sample of Wesleyan. To put it another way, the difference between Wesleyan students and undergraduates at the second college on family background, occupational aspirations, major field, etc., is little if any greater than the difference between two successive Wesleyan classes. In Table 21 the occupational status of fathers and the anticipated status of sons at the freshman level is compared for two Wesleyan classes and a freshman class at the second liberal arts men's college. The degree of similarity recorded on these variables is also found in a comparison of distributions of students among major fields at both schools and in a comparison of the types of community in which they grew up (vid., Tables 30 and 31, Appendix III). In terms of social origins, occupational aspirations, and academic programs, students at the two colleges might as well be at two branches of the same institution.

Turning to the responses on the questionnaire of students at the two colleges, it is clear that the pattern of scale values is almost identical. The correlation of the mean scores on all occupations and scales (720 items) for freshmen at the two colleges is +.95, and the correlation between the two senior samples is +.95. This similarity of freshman and senior response patterns occurs in spite of the fact that the freshman sample at both colleges was close to a 100% return while the senior sample at Liberal Arts College II should be unrepresentative according to sampling theory. There is good evidence that these data are so stable that any large number of people from one population, perhaps 50, will provide a reasonable estimate of the population means. This finding coupled with the data on population similarity is enough to justify selecting the data from one college as representative of the results from both small men's liberal arts colleges.

When absolute values are compared it is surprising to find that a correlation of the differences of mean scale values of freshmen at the two schools with the differences between seniors is only +.31 ($P < .01$). That is, observed differences between freshman profiles over all occupations account for only 10% of the variance of the differences between seniors. This occurs primarily because the absolute differences between the scores of students at the two schools are quite small and therefore very sensitive to sampling error. In effect, these data behave as if they were based on two samples from the same population.

Table 21

OCCUPATIONAL STATUS OF FATHERS AND ASPIRATIONS OF FRESHMEN SONS AT TWO MEN'S LIBERAL ARTS COLLEGES

	Wesleyan Freshmen				Lib. Arts Coll. II Freshmen	
	Fathers		Sons		Fathers	Sons
	Class of		Class of		Class of	Class of
	1961 %	1962 %	1961 %	1962 %	1962 %	1962 %
A. High-status Professional (Doctor, Lawyer, College Professor, etc.)	33	32	57	59	33	52
B. Lower-status Professional (School Teacher, Pharmacist, Librarian)	3	7	7	11	10	17
C. High Managerial and Entrepreneurial (Executive positions)	12	13	18	3	21	8
D. Middle Managerial and Entrepreneurial (Managers)	27	30	1	4	26	5
E. Lower Managerial and Small Enterprise	12	7	-	-	3	-
F. White- and Blue-Collar Workers	4	6	-	-	6	-
G. Other, or Uncodeable	9	5	17	24	1	18

A more informative procedure for comparing data from the two colleges that are so similar is to compare both of them with an independent sample. The Wesleyan and Liberal Arts College II profiles of means were both compared with the scores from the private women's college. The differences between Wesleyan and the private women's college correlated +.72 with differences between the second men's college and the private women's college. Without entering a discussion of the statistical features of such a comparison it can be stated that the two private men's colleges differ from the women's college in much the same way. The order of magnitude of this association measure is similar to the +.65 correlation observed when profile differences between male and female freshmen at Wesleyan and the women's college are compared with differences between male and female seniors. In other words, the same order of association is found when two samples of men from Wesleyan are compared with private college women as when samples from the two liberal arts men's colleges are used. From these several considerations it is appropriate to conclude that the two colleges are very similar both in formal characteristics of their student bodies and in the images of occupations held by their students.

Comparison of Wesleyan occupation profiles with those produced at the second men's college revealed a mean of 8.73 significantly different scales per occupation. In this comparison Wesleyan students rate most occupations as more attractive. The Wesleyan students perceive most occupations as more socially oriented and somewhat more intellectually sophisticated than do their counterparts at the second men's college. There were no consistent differences between the two groups in rating occupations on worldly success or in control and responsibility terms.

Table 22 summarizes the significant differences between students at the two men's liberal arts colleges. The data in Table 22 indicate small but consistent differences between the schools are to be found in the evaluation of four related occupations. Office supervisor, personnel director, sales manager and engineer are all rated by Wesleyan compared with the second college as more intellectually and aesthetically effective as well as more cheerful, sociable and popular. The lawyer joins this business and industrial group by registering intellectual gains at Wesleyan, but the two groups of students do not differ on his social sophistication. Finally, Wesleyan young men rate the artist as

Table 22

DIFFERENCES BETWEEN STUDENTS AT TWO PRIVATE MEN'S LIBERAL ARTS COLLEGES IN RATINGS OF OCCUPATIONS

	Number of Significant Differences		
Occupation	Wesleyan Score More Favorable than Lib. Arts Coll. II	Lib. Arts Coll. II Score More Favorable than Wesleyan Score	Total
Accountant	2	2	4
Artist	8	3	11
Business Executive	7	5	12
College Professor	4	6	10
Doctor	4	4	8
Engineer	10	5	15
Industrial Manager	6	4	10
Lawyer	7	2	9
Office Supervisor	9	0	9
Personnel Director	10	1	11
Retail Store Manager	4	3	7
Sales Manager	11	1	12
School Teacher	3	2	5
Scientist	2	1	3
Social Worker	1	4	5

both more successful in the world of material and social affairs and more sociable than do men at the other private men's college. On one occupation the differences are particularly complex. The Wesleyan students rate the business executive somewhat higher in cultured intellect than the students from the second college who generally rate him higher than Wesleyan does on material success and personal control. Again, it must be noted that these are small differences which should not be over-interpreted although they fall into quite intelligible patterns.

Summary

There are consistent differences between private and public college students in the images of occupations with which they organize the career world. In relative terms these differences are very small. They are primarily differences in emphasis in the features attributed to each occupation. In general, the public college student rates occupations more favorably than the private college student. The differences in beliefs about occupations are much smaller than the difference between the social origins of the two groups. A comparison of two male liberal arts colleges was presented to indicate the similarity between these two samples. It was decided to allow one college to represent the genre in the interest of economy. Here too differences in emphasis appeared, but they were less dramatic than the private versus public profile differences.

In all of these comparisons it is worth noting that the shifts in emphasis are factorially consistent. Differences always emerged along the lines of particular factors. Only rarely is an occupation rated more highly by one group or another on an assortment of scales from all factors; rather one or two sets of factor-related scales are used differently and uniformly by two groups. This strongly suggests that the factors are psychologically reasonable estimates of the cognitive organization shared by many students. Secondly, it establishes grounds for interpreting group differences as a source of insight into the operation of various experiential variables on the perception of college students.

Chapter VI

GROUP COMPARISONS - ACADEMIC AND SOCIAL VARIABLES

In this chapter the association between three characteristics of the student sample and images of occupations will be discussed. First, the differences in outlook between freshmen and seniors will be developed, followed by analysis of the differences among students at three levels of socio-economic status, and in two occupational settings in which students' families may be located.

Comparison of Freshmen and Seniors

Concern with the effects of college has recently focussed much attention on the differences in attitudes and values between freshmen and seniors. Ideally, an investigator seeks to follow the same students over the four years of college, but relatively little longitudinal data is available on large samples of students. Several studies are now being conducted to remedy this, such as the work of Sanford and his associates (1956) at Vassar. A pioneer study by Newcomb (1943) at Bennington marks the beginning of the empirical investigations of value and attitude changes in college that have been ably summarized by Jacob (1957).

The differences between freshmen and seniors on beliefs about occupations are not large. In fact, considerable effort is required to discern a pattern in the differences that emerge from this comparison. The mean number of significant differences per occupation for the colleges sampled were Wesleyan 4.07, the private women's college 5.27, state university men 5.20, and 5.80 for state university women. Three of these differences are larger than would be expected by chance, but they are much smaller than the differences that emerged when men and women or private and public college samples were compared. When the differences between freshmen and seniors at Wesleyan were correlated with the corresponding differences from the private college women a value of +.25 ($P < .01$) was obtained. The analogous correlation of freshman-senior differences of state university men and women was +.22 ($P < .01$), confirming the first observation. A further test of this relationship was obtained by correlating the differences between freshmen and seniors for the private college women with those obtained from public university women. In this case, where sex rather than institutional type is controlled, the correlation was +.21 ($P < .01$). These correlations on different samples indicate that there exists a low but reliable association of freshman and senior differences when different groups are compared.

The effects of the four years in college that may be inferred from this cross-sectional data are not clear-cut. There is a tendency for seniors compared with freshmen to rate all occupations in less attractive terms. This may be described as a form of senior pessimism. The negative shift does not, however, fall equally heavily on all occupations. The engineer is the most consistently downgraded of all the occupations when his image is compared across the two classes. In all four student samples the seniors have a more critical view of the engineer. In general he is given a lower rating on cultured intellect by both senior men and women. It seems that the distinction between pure and applied has developed in the minds of seniors to the disadvantage of the engineer. Entering freshmen may classify the engineer as a professional man while for a senior the applied aspects of his work are more salient.

For the state university men and women only the accountant shifts toward a negative pole for seniors. This change is not supported in the private university freshman-senior comparison. The change is largely accounted for by a change in cultured intellect which is less strongly associated with the accountant by seniors as compared to freshmen. At both the men's and women's private colleges the college professor is treated differently by freshmen and seniors. In general terms, the seniors have a less exalted view of the professor than freshmen do, but this is not focussed on any single evaluative dimension. This difference does not emerge in the state university comparisons. Finally, freshmen and senior women at both types of colleges are in disagreement about the attributes of the social worker. Senior women perceive the social worker as less intellectual and less successful than do freshmen women.

It should be noted that freshmen and seniors agree in attributing success, sociability, and control-responsibility scales to the different occupations. However, on the cultured intellect scales the freshmen give higher scores than the seniors to most occupations. The changes, then, that lead to an hypothesis of senior pessimism are almost wholly concentrated on an increasing tendency to see occupations as differentiated on this dimension. The seniors down-grade several occupations on cultured intellect while leaving the high status professionals such as doctor fairly secure on this dimension. In all likelihood, liberal arts training increases the significance of this dimension in the evaluation of occupations.

One of the most important aims of education is to correct the stereotypes that people carry in their heads. These results do not give any evidence that occupational stereotypes are influenced by even the most expensive liberal arts education. This cannot be explained by appealing to the accuracy of these stereotypes since it is certain that the fantastically high agreement among subjects does not reflect the diversity that exists behind the occupational titles that have been rated.

Comparison Based on Socio-Economic Background

A second major population characteristic that is generally associated with differing systems of attitudes and values is socio-economic status. A variety of hypotheses can be formed for predicting differences in images that would follow from well established differences between classes. There is no need to develop these hypotheses since no evidence was obtained that indicated the existence of different occupational images in students from different family backgrounds.

Socio-economic status was estimated from the occupational level of the fathers. The children of high-status professionals and executive level business personnel were combined to form a high-status group. Sons and daughters of lower ranking salaried professional men and of middle and lower business and industrial managers constituted a middle-status grouping. Finally, the children of clerical personnel and blue-collar wage workers were grouped into a lower-status classification. At the private colleges, students from high- and middle-status families were compared. The lower-status group was not studied because of the small number of instances in the two private colleges. The mean number of scales per occupation on which significantly different scores were obtained was 2.47 at Wesleyan and 3.07 at the private women's college. These means are well within the range of scores that could result from chance fluctuation alone. At the state university it was possible to compare high and low status students because of the different population distribution among the three status levels. The mean number of significantly different scales per occupation for state university men from families at the two status levels was 2.40 and for women it was 4.00. Again, these values can represent samples from the same population of observations. There is no evidence in these data that occupational images vary consistently among the three major levels of socio-economic status that are represented in a college population. The selection of colleges made it possible for the two extreme groups of high- and low-status students to approach the limits found within colleges. The private colleges contain an unusual number of students from very high-status families, while the state university draws upon a population which includes many students from quite modest urban and rural backgrounds.

Results of the correlations between group differences of independent samples are confirmatory of the negative findings derived from the comparison of occupational profiles within groups. The differences between high- and middle-status Wesleyan students correlated -.03 (P=N.S.) with the corresponding differences at the private women's college. Differences between high- and low-status men at the public university correlated with the analogous female differences +.20 ($P < .01$). Apparently the larger status differences at the state university allows a small correlation to appear between the patterns of differences. The smaller gap between adjacent class levels does not yield a significant correlation in the private college sample. Further analysis of this data was deemed unnecessary in view of the minimal effects that are reported. It is clear that socio-economic status does not control any meaningful segment of the variability in the images of occupations held by college students.

Comparison Based on Family Occupational Setting

Because of the interesting discrepancy between the fathers' occupations and the occupational intentions registered by the liberal arts students that is discussed in Chapter V, the occupational images of students from business and professional homes were compared. All students from professional homes, regardless of status, were combined into a group as were all the students from families in which the father was a manager or independent interpreneur. It was thought that this combination might bring out differences in beliefs that were obscured in the socio-economic comparison. Inherent in the nature of the student populations was a high association between high social status and professional family, and between middle social status and business family. Therefore this was not conceptualized as wholly different from the socio-economic status analysis. Nevertheless it was hypothesized that different perceptions of business and professional roles might be associated with the family occupational setting in which a student matured.

The results of the analysis on private college students only were wholly negative. The analysis was not extended to the public university population. At Wesleyan, the mean number of significant differences per occupation between students from professional versus business families was 3.07, while the private college women students differed on a mean of 3.20 scales per occupation. The correlation of differences obtained from comparisons within the two independent samples was +.09 ($P < .05$). These differences are so small that they do not warrant interpretation. It is safe to assert that students from professional and business family settings share similar beliefs about the characteristics that accompany membership in a variety of occupational roles.

Briefly, then, the data presented in this section indicate that there are some small differences between freshmen and seniors in their beliefs about the properties associated with occupational roles. The differences are certainly less dramatic than educators would like them to be, particularly since one of the constant values of education is believed to be its effect in reducing adherence to traditional stereotypes. When students from homes at three hierarchically ordered socio-economic levels were compared no differences were found in the occupational images held by the three classes. A comparison of students from professional as contrasted with business family settings failed to yield evidence of differences in occupational images.

The data were not analyzed in terms of any other extrenal criteria. It may well be that an important dimension has been overlooked. However, limitations of time and resources forced the work to end here. The authors do not believe that any major dimension of social structure that might influence responses to occupational roles has been neglected. The relations between dimensions of personality and images of occupations remain to be explored systematically.

Chapter VII

IMPLICATIONS OF FINDINGS

In this chapter the implications of many of the research findings will be developed for workers in such areas as vocational guidance, counselling, and education, as well as for researchers in behavioral science. This, of course, is but a sampling of the inferences that can be drawn from the results for various areas of professional and public interest.

College Vocational Guidance

Vocational guidance for liberal arts students has not been traditionally a critical problem in the American college. Through most of the history of American higher education liberal arts students either had a definite professional goal or they knew that an occupational niche awaited them as soon as they were graduated. However, as the number of college students has grown, and as they are increasingly drawn from families which have had little connection with higher education, the need for vocational guidance has rapidly developed. It is now common for deans and counsellors to dread the spring season when sophomores are anxiety-ridden about the choice of a major and seniors develop symptoms while awaiting a nod from graduate schools or corporation recruiters. The historic guide lines provided by family or by professional requirements are no longer adequate to the task of acquainting young people with the occupational world.

Three of the major problems that must be faced in the development of adequate guidance services are of importance from the standpoint of this report. First, a guidance program must deal with the lack of objective information possessed by students about occupational alternatives. Few college students have any conception of the skills, talents or personal attributes that are important for satisfactory adjustment to most high-level jobs. Indeed, most students do not know the educational and training requirements of any but a few highly visible professions (e.g., medicine and law). The primary exception to this is the knowledge a student will possess about his father's occupation. A second problem for a guidance program is the limiting effect implied by the existence of firm occupational stereotypes.

Validated by the "bull session," mass media and recruiting brochures, student beliefs about occupations can direct them in ways that are not advantageous either to the student or their future employers. Many potentially rewarding careers may be rejected by students because they are associated with unattractive traits of personality or life-style. After all, to join a field not only classes the student with undesirable personal and social characteristics but it promises to bring him unappealing future associates. Finally, the expanding and dynamic occupational structure poses a problem for adequate guidance activities. Many students are now hired for jobs that are essentially devoid of specific content. The student may be hired to "manage." In many cases this means that the specifications of his job will change six times in a ten-year period. In effect, the young person is hired with the expectation that he will have the personal flexibility to fill a succession of jobs that will be created and destroyed in a rapidly changing technological economy. In such a situation knowledge of job characteristics and a conception of his own skills are of little use to the student.

The power of the occupational image is heightened by the two problems with which it is associated in the development of guidance activities. If students know very little about the objective properties of any occupations, and if many jobs are in fact devoid of content, then the occupational image becomes the only reality available to many young people. Therefore it would seem important to focus on this to some extent in the development of guidance programs.

An extensive literature has been developed in recent years describing the characteristics of high-level occupations. The abilities, skills and personal qualities most important for success in many fields have been carefully studied. For those careers which have a fairly stable set of specifications, it is possible to inform students in detail of the properties of an occupation and how they might best prepare for it. This literature has proven invaluable to students and their advisors wherever it has been used.

There has been no comparable systematic attempt to assess and direct the thinking of students about the personal and social implications of occupations reflected in the stereotypes. The findings of this study strongly suggest that vocational guidance should take greater account than is now common of student prejudices about the occupational world. It is not sufficient to indicate to a student that his interest pattern points to a family of occupations and to analyze his assets in the light of this. Students must also be given a sense of the range of personality patterns that can fit into and even enlarge and enrich a number of occupations. Both social utility and personal satisfaction may be enhanced if able students can be shown the scope of opportunity available in many careers now on the proscribed list. Students need to be informed of ways in which they could realize such goals as intellectual growth, and the expression of sociability in specific careers.

It may well be that student stereotypes of occupations are close to reality in their depiction of people and possibilities in these fields. Be that as it may, it would be unfortunate for the development of most professions and business fields if stereotypes governed their success in recruitment. It must be the case that all high-level fields stand to gain by drawing to their ranks people with a diversity of skills, talents and personal gifts.

If these remarks are taken seriously, the college guidance counsellor has a complex and demanding task to accomplish. Not only must a student be directed to assess with accuracy the relation between his talents and particular occupations, but also he must be shown how his self-concept and his future expectations fit with a career alternative. Most important, the counsellor must be able to help a student thread his way through a maze of limiting images and stereotypes that have closed some rewarding fields from his view.

College Counselling

Related to the vocational guidance issue are the implications of occupational images for the more general problems of counselling. In the first chapter the importance of occupational achievement for identity formation and healthy personality development was discussed. Evidence is quite strong that for many college students a great deal of emotional energy is committed to finding a status conferring occupational position by means of a higher education (e.g., Myers and Roberts, 1959).

The availability of occupational images subject to a high degree of consensus is quite important in this regard. A student with limited ego-strength is likely to commit himself quite heavily to a specific desirable occupational image. This permits him to shape his concept of himself around an ideal that is widely known and respected. At the same time it associates the student with ego supporting connotations in the minds of others. Unfortunately this career may not be within the realistic reach of the student either for reasons of ability or for financial and family reasons. Problems associated with the loss of a cherished career goal may be quite severe because of the large role the occupational goal frequently comes to play in the personal economy.

Even among relatively well-integrated students considerable anxiety can center around the development of career plans. Most contemporary students realize that the American status structure is organized on occupational lines. The images which they share make it quite clear that enjoyment of many facets of the "rich, full life" are tied to the occupation that one is able to achieve. To fail as a pre-professional student is to surrender many hopes about one's own personal qualities and future rewards.

It seems highly desirable to guide the development of the confidence and security of students in such a way that they will not need to rely so heavily on occupational goals. However, in the absence of any inspiration on how this can be accomplished in the counselling setting, the best that can be done is to alert counsellors to the possible importance of occupational images. The complexity and personal relevance of a career aspiration may be an important datum in understanding the personality of a student. The feature of the images that have been described may offer useful clues to the emotional experiences of some students.

Academic Curricula

The finding that occupational images are unchanged from freshman to senior year may at first seem slightly surprising. It is one of the cherished claims of colleges that a liberal education should alter and diminish stereotypes. However, a moment of reflection suggests that occupational stereotypes are not the subject of attention in the academic setting. Certainly few faculty are in any position to interpret the occupational world in an objective manner to their students. Indeed, additional research has demonstrated that faculty also participate in an elaborate occupational stereotype system (vid., Beardslee and O'Dowd, 1960a). If changes in stereotypes were to occur they would have to be occasioned by the active investigation of occupational areas by undergraduates or by the effects of various mass communication channels.

One suggestion in the face of this problem would be to urge faculty to alert students to the limiting nature of their beliefs about occupations. This might be desirable, but it is most unlikely that faculty would be inclined to undertake such a task. It is almost certain that the stereotypes are so widely accepted that only a long-term major mass media campaign could begin to alter these beliefs. A second and more reasonable possibility is that the effects of education could be aimed at reducing the personal dependency of students on these images. Their existence would be of much less importance if students were sufficiently strong and confident that they could be rather casual about the images. The available data suggest that many young people rely on future occupations as a source of ego-support. It should be possible through the curricular and pedagogical organization of college teaching to free students from dependency on these stereotypes.

In order to accomplish this aim higher education must do two things. It must arouse in the student a conviction that the contemporary occupational world is an arena requiring generalized intellectual and interpersonal skills of a high order. Secondly, the college teacher must heighten his emphasis on conveying the ways of analyzing, organizing, and conceptualizing reality that are his primary tools. If students come to believe that generalized skills can both contribute to the growth of highly valued areas of their personalities and be of immense use in every reach of the higher order occupational world, then reliance on a given job and a narrow competence may be diminished. If the student perceives his own self-esteem centering around newly acquired talents in learning, then he can approach the occupational world with some confidence and flexibility.

Clearly, these goals will not be accomplished by natural evolution at a very satisfactory rate. Rather, it is necessary to accelerate careful investigation and planning to indicate the emphases that will heighten the relevance of many academic areas for the personal development of students.

Professional and Business Interests

The professional and business groups charged with maintaining the standards and integrity of their fields will certainly be interested in these data. They can find here a description of how their field of endeavor is perceived relative to a number of other high-status occupations.

Almost every occupational area today is concerned with its public image and the effect of this on recruitment possibilities. It is not surprising that such concern with the public face of a field should be great in a time of rapid communication and active competition among fields for the supply of talent. This in part reflects the universal desire of people to be favorably perceived. It is also evidence of a general interest in most occupational areas to raise standards of performance and service.

Although the data in this report are primarily descriptive they do suggest the ways in which images are organized and the directions in which they will most easily change. It is clear that most every field would like to join the doctor, but this is obviously impossible. On the other hand, it should be possible for fields to alter their most handicapping projections in the hope of giving a wider range of students an opportunity to consider them as possible avenues in which to seek life goals.

Behavioral Science Considerations

This study reaches far beyond all previous research in this area. It is continuous with a variety of other studies listed in Chapter I, and the findings can be integrated with them. Since the scope of this work is much greater than that undertaken by previous investigators the task of articulating these interrelated findings will not be attempted here. However, before closing, one issue seems so important to research that it must be mentioned.

A primary result of this study has been to sketch the form and content of a stereotype system only lightly investigated in the past. It appears that occupational stereotypes deserve considerations as being possibly co-equal in importance with racial, ethnic and religious stereotypes. In a recent study by Cawthorne and Kogan (1959) it was shown that when age is paired with occupation the occupation label is much more influential in image formation than the age of a hypothetical person. This suggests that there is a hierarchy of sociological attributes such that each has greater power in image determination than those below it. It may be hypothesized that racial, ethnic and religious stereotypes are dominant in America, followed closely by occupational stereotypes as powerful forces controlling responses. Age has been demonstrated to be subordinate to both of these. Social class and other prominent social characteristics of people deserve investigation in this connection.

It remains for future investigations to study the nature of occupational images held by students in professional schools and special training programs. The development of occupational images in the grade school and high school years also needs to be investigated. Finally, the beliefs of the general public about a variety of occupations would be a most interesting topic for future research.

Chapter VIII

SUMMARY AND CONCLUSIONS

The original goal of this program of research was to obtain basic information on the orientation of college students to aspects of the occupational world other than the work content of jobs. A number of students of social trends have indicated that contemporary young people tend to be more concerned with interpersonal relations in their daily lives than with traditional goals of work and production. These observations were confirmed in a broadly conceived set of pilot studies that preceded this project. Indeed, careful questioning revealed that many liberal arts college students have virtually no concrete information on the work activities demanded by the fields they intend to enter. In the light of this it was decided to concentrate on determining the connotations of occupations in terms of the style of life, work satisfactions and personality characteristics associated with membership in them. That is, the study was designed to reveal the implications of a series of high-level occupations for the attainment of the "rich, full life" so often cited as a central life-value for present day students.

A research instrument, designed to reveal the beliefs of students about the meaning of occupations, was developed in the course of the series of pilot studies. This was a questionnaire employing two-ended, seven-point rating scales on which a set of 15 occupations were to be rated. Two forms of the questionnaire were developed in such a way that a series of scales were common to both forms. One form contained additional scales derived from Osgood's (1957) work with the semantic differential, and the other form contained a unique set of scales selected from Cattell's (1957) personality rating scales. The joint scales were devised for the particular purpose of revealing some important facets of the perception of occupational roles which were located in the preliminary studies. The 15 occupations were chosen either to represent high-level business and professional fields or because they have special features of interest in the research context. As a group they account for the career choices of a large number of male college graduates. They were not intended to represent the fields entered by people who achieve less than a full undergraduate college education. All of the occupations were rated on the 35 scales contained in either of the two forms by each respondent. This makes it possible to compare the ratings of all occupations on the series of scales.

The questionnaire also requested a certain amount of personal information from every respondent. The instructions were adopted from those devised by Osgood (1957) for use with the semantic differential. The instructions and the request for personal information used with men were modified slightly when women were questioned. Women were asked to rate occupations "as they involve men in our society." The orientation of men and women was thereby focussed on the occupational world of men.

The images of occupations held by students at four colleges were studied. These colleges included two small, highly-selective private men's liberal arts colleges, a highly-selective private women's liberal arts college, and a large, coeducational state university. All of the colleges were located in the northeast. Probability samples of freshmen and seniors were drawn at each college. At three of the four colleges, completed questionnaires were obtained from better than 90% of the subjects. At one of the private men's colleges only 73% of the subjects returned useable questionnaires. Different techniques of questionnaire administration devised to fit with the nature of the campus were used at each college. Every effort was made to obtain representative samples of the beliefs of college of arts and sciences undergraduates at three important types of colleges.

The questionnaire data have a satisfactory level of test-retest reliability as measured by several commonly used procedures. A variety of statistical features of the questionnaire were analyzed in order to give precision to the interpretation of findings. For example, the number of significant differences to be expected by chance when profiles of an occupation were compared for two independent groups of subjects was determined empirically. The nature of the data make the usual 5% prediction unacceptable due to the fact that each subject in a group rates an occupation on all 35 scales that enter the comparison. An estimate of the number of significant differences between groups on all occupations and for individual occupations that would occur by chance alone was obtained.

Results of the study indicate conclusively that occupational titles are consistently associated with life-styles, patterns of social relationships, and personality traits by students. Each occupation has a complex image which distinguishes it from all of the other occupations. That is, there is a high degree of differentiation among the images. At the same time most of the occupations studied are viewed favorably because of their status position in the occupational structure. Of equal importance is the finding that there is great agreement among groups of students on the characteristics of occupations. The specific images of occupations are agreed upon to a great extent by all groups of undergraduate liberal arts students in the study. It appears that the findings are quite general, they report on a belief system that is acquired by an important segment of the American citizenry at least by the end of secondary school training.

The data were analyzed with a view to understanding the structure of student beliefs about the set of occupations. Four main dimensions of responses were located by the use of factor analysis. This indicates that students respond in a complex and organized manner to occupations. They do not operate with only a general dimension of attraction or aversion as might be predicted. The features of this response space are stable when the two forms of the questionnaire are compared, and when different occupations are evaluated by students. At least for liberal arts students, this multi-dimensional belief system almost forces itself forward as a description of the occupational world view of college students.

The four dimensions of evaluation have been labelled, (a) cultured intellect, (b) material and social success, (c) cheerful sociability, and (d) personal control and political responsibility. The location of an occupation on one dimension does not imply its rating on another dimension in the set of four. The relative importance of the dimensions cannot be stated with any confidence on the basis of internal criteria. However, a summary scale and an ideal occupational preference scale yield suggestive evidence that cultured intellect and material success are subjectively more important than the other two dimensions.

These factors are related to the dimensions of meaning reported by Osgood (1957) and the dimensions of personality ratings listed in Cattell (1957), but they are not identical with them. When a new segment of the symbolic and social environment is evaluated a shift in response systems is evoked that suggests new values have been tapped. With a description of the student expectations about the occupational world at hand, it should be possible to understand career and academic sentiments of students that have previously been confusing to many careful observers of student life.

The locations of specific occupations on these dimensions provide revealing insights into the perceived rewards and opportunities associated with alternative fields. For example, all of the professional occupations included in the study received higher scores on cultured intellect than any of the business occupations. If this dimension represents an important value for contemporary college students, then selection of a business field ought to involve considerable difficulty for most liberal arts students. The very heavy emphasis on the professions as career choices found among all liberal arts men in the study complements this finding.

Not only was the structure of responses to occupations analyzed, but also the beliefs of students about specific occupations were studied with care. It was found that the doctor has almost magical properties in that he stands at the most desirable position on all dimensions of judgment. Lawyer, college professor and business executive are also very favorably situated relative to other occupational roles. At the undesirable end of the selected group of careers is the accountant, followed closely by office supervisor and several other lower-status business positions. The detailed properties of each of these fields is developed in a series of word portraits in Chapter II. In addition eight pairs of closely related occupations have been compared in order to highlight their similarities and differences. For example, the profile of college professor and scientist are plotted in the same figure, showing the particular strengths of the professor as a more aesthetically sensitive, sociable, and colorful individual than his scientific colleagues. The scientist, on the other hand, has greater wealth and opportunity for advancement than the academician.

It was originally expected that systematic differences in the profiles of occupations and clusters of occupations would be apparent when the population was studied on the basis of various demographic factors. The responses of subcategories of students were expected to yield clues to the meaning of the profiles for students in general. Comparisons of groups of students classified by sex, type of institution (private or public), year in college (freshman or senior), socio-economic status, and by family occupational setting (business or professional) yielded interesting but small differences. The largest and most numerous differences in profiles were found when men and women, and when private and public college students were compared. The nature and scale of observed differences pointed primarily to the vast agreement on occupational profiles among college students regardless of their past experience or present academic setting.

It is not possible in a brief study to investigate in detail the relation between the images of occupations and ultimate occupational outcomes. The liberal arts men in large numbers indicate their desires to enter the occupations that possess highly attractive images while the majority of women say they would like to marry men employed in the glamorous occupations. When men are asked to rate all of the occupations in terms of ideal desirability for them, the fields with attractive images receive the highest scores, indicating a desire to be associated with them. On average, men state they would not like to be associated with lower-status business occupations, art or social work. In terms of the factor structure, men would like to be associated with occupations which would allow them standing as cultured intellectuals and provide a degree of material and social success. The data indicate that total personal effectiveness is most strongly a function of being a cultured intellectual. However, when it comes to personal preference in the career world material considerations cannot be neglected.

In conclusion, the results of this study establish that college students have stable and complex beliefs about the implications of specific occupational choices for a future way of life. When coupled with their lack of information about the work conditions associated with occupations, and their concern to achieve a varied and stimulating life, these findings assume rather great importance. Not only do the data reveal the experiences that students expect to follow from the selection of a number of important occupational roles, but also their responses make it possible to infer the values with which they approach the world of work. From these beginnings it is possible to generate hypotheses about the relative appeal to students of different occupations, the personality characteristics of students who would be attracted to different fields, and the academic motivations of students with different occupational goals. There remain many unanswered questions about the images held by students in professional schools and vocationally oriented college programs, the development of occupational images in the pre-college years, and the changes of occupational images for a group of students studied over a period of years.

APPENDIX I

SAMPLE QUESTIONNAIRE PAGE

LAWYER (08)

1.	wealthy	......:......:......:......:......:......:......	not well-to-do
2.	conformist	......:......:......:......:......:......:......	individualist
3.	has a pretty wife	......:......:......:......:......:......:......	wife is not pretty
4.	doesn't play poker	......:......:......:......:......:......:......	plays poker
5.	has good taste	......:......:......:......:......:......:......	has poor taste
6.	unhappy home life	......:......:......:......:......:......:......	happy home life
7.	cleancut	......:......:......:......:......:......:......	strange
8.	low opportunity for advancement	......:......:......:......:......:......:......	high opportunity for advancement
9.	plays chess	......:......:......:......:......:......:......	doesn't play chess
10.	not interested in art	......:......:......:......:......:......:......	interested in art
11.	high social status	......:......:......:......:......:......:......	low social status
12.	unsuccessful	......:......:......:......:......:......:......	successful
13.	great personal satisfaction	......:......:......:......:......:......:......	little personal satisfaction
14.	doesn't play bridge	......:......:......:......:......:......:......	plays bridge
15.	powerful in public affairs	......:......:......:......:......:......:......	not powerful in public affairs
16.	socially unpopular	......:......:......:......:......:......:......	socially popular
17.	radical	......:......:......:......:......:......:......	conservative
18.	worthless	......:......:......:......:......:......:......	valuable
19.	deep	......:......:......:......:......:......:......	shallow
20.	changeable	......:......:......:......:......:......:......	stable
21.	active	......:......:......:......:......:......:......	passive
22.	colorless	......:......:......:......:......:......:......	colorful
23.	optimistic	......:......:......:......:......:......:......	pessimistic
24.	soft	......:......:......:......:......:......:......	hard
25.	hot	......:......:......:......:......:......:......	cold
26.	rash	......:......:......:......:......:......:......	cautious
27.	interesting	......:......:......:......:......:......:......	boring
28.	selfish	......:......:......:......:......:......:......	unselfish
29.	wise	......:......:......:......:......:......:......	foolish
30.	weak	......:......:......:......:......:......:......	strong
31.	sensitive	......:......:......:......:......:......:......	insensitive
32.	excitable	......:......:......:......:......:......:......	calm
33.	rational	......:......:......:......:......:......:......	intuitive

34. In summary, what do you think is the general personal effectiveness of the LAWYER?

personally effective ......:......:......:......:......:......:...... personally ineffective

APPENDIX II

SAMPLING PROCEDURE AND QUESTIONNAIRE ADMINISTRATION

The procedures of sample selection and data collection used at each of the four colleges were somewhat different. Selection of a sampling technique and questionnaire distribution system was made in accord with the advice of on-campus social science faculty with a view to obtaining the best possible results at each college. In every case the experimenters attempted to secure completed, usable questionnaires from all subjects in true probability samples of the target populations.

A description of the samples and the data collection methods for each college are contained in this section. Some general comments on cooperation of subjects, use of student agents, questionnaire format, and data organization are presented at the end of this appendix.

Sample Descriptions

Wesleyan University

Sampling.- Two independent samples each containing both Wesleyan freshmen and seniors were drawn at the same time. The Wesleyan University Bulletin, Campus Directory and Regulations Number, 1957-58 was used as the listing of students from which the samples were drawn. These were non-overlapping samples. Both samples were probability samples--every member of each class having a known chance of being chosen. Approximately equal numbers of freshmen and seniors were selected within each of the two samples. Proportional stratified sampling by social organization or category (fraternities, clubs, and independents) was employed in both samples. Every social organization contributed to the sample a number of freshmen and seniors proportional to the size of its delegation.

Sample A. contained 113 subjects. These subjects were all requested to fill out the Cattell Form of the occupations questionnaire. Of the 226 freshmen in college on October 20, 1957, 57 were selected, and 56 of the 171 seniors were included in the sample. Random substitutions were made for five subjects who had left the college prior to the start of the study.

Sample B. was made up of 59 subjects. The sample size was reduced to 57 because of the loss of two of its members from the student body during the study. The subjects in this group were asked to complete the Osgood Form of the occupations questionnaire. The freshman sample numbered 28, and the senior sample was 29. Only one substitution to replace a student who had dropped out was necessary in this sample.

Table 23 represents the sample size and the numbers and percentages of subjects who returned completed questionnaires. The overall percentage of completed questionnaires was 90.6%.

Table 23

SAMPLE SIZE, AND FREQUENCIES
AND PERCENTAGES OF QUESTIONNAIRES
COMPLETED BY WESLEYAN MEN

	Sample A			Sample B		
	No. of Ss	Completed Quest's	Percent Completed	No. of Ss	Completed Quest's	Percent Completed
Seniors	56	50	89.3	29	27	93.1
Freshmen	57	49	86.0	28	28	100.0
Totals	113	99	87.6	57	55	96.5

Non-respondents.- The 16 non-respondents fall into two general categories. There were three subjects who were unwilling to return the questionnaire on the grounds that they were too busy to take part in such a "meaningless" task. The remaining 13 non-respondents failed to complete the task in spite of many promises that they would, in what appeared to be good faith. These people can be classified as either too busy, too lazy or too disorganized to fill out a lengthy questionnaire.

Data Collection.- Mimeographed questionnaires for the entire group of 170 subjects were distributed by mail on March 10, 1958. Each questionnaire was accompanied by an addressed return envelope and a brief letter explaining the project. Four follow-up stages including both letters and phone calls were executed at intervals of about a week. On the 14th of April 78.9% of the questionnaires had been returned. Further, less formal, follow-up activities were carried on until the first of May when the data collection was terminated.

Private Men's Liberal Arts College II

Sampling.- This study was conducted in the Winter and Spring of 1958-59. The senior class was exhaustively sampled. Every member of the class in college at the time of this study was contacted. There were 258 seniors from whom completed questionnaires were sought.

A probability sample of the freshman class was drawn employing the college directory of students. Every student in the freshman class had an equal chance of being included in the sample. The list from which the names were drawn was not corrected for students who had left college between October 1958 and the time of the study. From the list of 255 freshmen, 120 names were selected for inclusion in the sample. The three students in this sample who had left college were dropped from the sample, reducing it to 117 subjects.

The characteristics of the private men's college II samples, and the returns obtained are summarized in Table 24.

Table 24

SAMPLE SIZE, AND FREQUENCIES
AND PERCENTAGES OF QUESTIONNAIRES
COMPLETED BY MEN AT
THE SECOND PRIVATE LIBERAL ARTS COLLEGE

	Number of Subjects	Number of Completed Questionnaires	Percentage Completed
Seniors	258	158	61.2
Freshmen	117	117	100.0
Totals	375	275	73.3

Non-respondents.- The group of senior non-respondents is so large and diverse that it is hard to classify. Some of the non-respondents objected strongly to the occupations questionnaire because it required them to admit stereotyped impressions about a category of people. Others took issue with the scales, pointing to the inappropriateness of terms to the occupations being rated. For many of the students, refusal to take the occupations questionnaire was part of a more general unwillingness to cooperate in the later stages of a four-year longitudinal study of the whole senior class. There is no way to estimate the number of non-respondents who can be placed in each of these classifications.

Data Collection.- The senior questionnaires were distributed by 14 trained and paid agents of the on-going project. Each of the fraternities and the independent group at the college were the responsibility of a student agent. His job was to obtain the cooperation of his group on a range of psychological tests and questionnaires which were distributed at regular intervals throughout the academic year. The occupations questionnaire was delivered individually to seniors during the week of November 3, 1958. The agents reported that they met with considerable resistance to the questionnaire in some quarters. The format of the questionnaire, the types of scales employed, and its length were all sources of irritation. Since the agents had been instructed as part of the larger study not to arouse any antagonism, they did not pressure their subjects to complete the questionnaires. This condition was necessary in order to insure a positive reception for several subsequent stages of the continuing study. It is worth noting that the seniors had been extensively tested and probably a fair amount of test-weariness had been established. Also, the occupations questionnaire was quite unlike the more objective instruments to which the seniors had grown accustomed. After five weeks the agents terminated all inquiries or mention of the occupations questionnaire. The return percentage from this phase of the study was 56.2%. The pattern of returns was related to the social organizations. The success of agents varied from one who obtained 18 out of 21 subjects from his delegation to another who was able to obtain but one completed questionnaire from 13 subjects.

Personal qualities of the agents were highlighted rather dramatically by this task.

A follow-up on the seniors was carried out beginning April 13, 1959, and running until the first of June. Each subject who had not completed the questionnaire was summoned personally by the directors of the principal project and asked to fill out the questionnaire at the time, or to make a specific appointment to return for this purpose at an early date. The return percentage was raised to 61.2% by this procedure.

The freshmen were approached in a much different manner. The freshmen are housed in large dormitories. An undergraduate dormitory advisor in each dorm was hired to gather the students from his dormitory who were included in the sample at a central room for group administration. The advisors conducted separate testing sessions for each dorm on February 24, March 3, and March 10, 1959. A large percentage (85%) of the freshmen appeared for the group administrations. The rest of the respondents completed the questionnaires individually within a few days. The 100% of the sample completing usable questionnaires was particularly encouraging.

An explanatory letter accompanied the questionnaire distributed to the freshmen. This letter promised a brief report of the findings to all who participated in the study. A summary of results was made available to the subjects in early June.

Private Women's Liberal Arts College

Sampling.- This study was conducted in the Winter and Spring of 1959. A probability sample of both the freshman and senior classes was drawn from the official class lists obtained from the Registrar. This list was corrected for students who had left college since the list was originally compiled. A group of 7 married commuter students and seniors on leave was dropped from the list because of their relative inaccessibility. It can also be argued that they were not full participants in college life from the point of view of this study. A systematic sampling procedure was followed, selecting every Nth name from the complete list and adjusting the sample until 120 freshmen and 120 senior names were obtained. The sampling interval was adjusted to the size of the respective classes. There were 639 freshmen and 461 seniors living at the college or in the community with their parents when this study was conducted. During the course of the research two seniors dropped out of school, reducing the senior sample to 118.

Table 25 indicates the main outlines of the sample, including the success of the data collection procedures.

Table 25

SAMPLE SIZE, AND FREQUENCIES
AND PERCENTAGES OF QUESTIONNAIRES
COMPLETED BY PRIVATE COLLEGE WOMEN

	Number of Subjects	Number of Completed Questionnaires	Percentage Completed
Seniors	118	105	89.0
Freshmen	120	114	95.0
Totals	238	219	92.0

Non-respondents.- The nature of the records which were kept does not permit an exact classification of the non-respondents. There were at most five outspoken refusals. The remaining 14 non-respondents appear to have been people who were either "too busy" or generally indifferent to appeals for cooperation. The most general impression was the indifference or annoyance of seniors compared to the interest and eagerness of freshmen subjects. The senior non-respondents particularly complained of their unfamiliarity with many of the occupations. There was also the usual unwillingness to be trapped in a stereotype among senior respondents and non-respondents.

Data Collection.- Letters were sent to each of the students selected to take part in the study. They were asked to come to one of several centrally located rooms at a specified time on February 4, 1959. The subjects were given questionnaires when they arrived. They completed the questionnaires in the testing room. Approximately 55% of the sample responded to this first request that they take part in the study. On February 9 all of the non-respondents were sent a blank questionnaire with a cover letter asking them to fill it out by February 12 when a student agent would call to collect the completed questionnaires. By this procedure the percentage of completed questionnaires was raised to 86%. Finally, a telephone follow-up was utilized to bring in four additional questionnaires.

On may 1st letters were sent to the 27 students who had not filled out questionnaires during the first stage of the study. The letter asked in urgent tones for the aid of each person in bringing the return percentage in the study to a satisfactory level. A copy of the questionnaire was enclosed with each letter. A second follow-up letter was mailed 12 days later. These efforts succeeded in raising the return percentage to 92%.

State University - Men and Women

Sampling.- This study was conducted in the spring of 1959. The basic document from which the sample was prepared was the student directory of the university. A sample of men and women was drawn from an edited list of first semester freshmen and seventh semester seniors in the College of Arts and Sciences. All commuters were dropped from the list because of their inaccessibility and their physical separation from many college influences. The commuters constituted 3% of the freshmen women and 20% of the senior men. The other two groups of commuters fell between these percentages. The main list was not corrected for people who had left school or become commuters from early in the first semester to the time of the study.

First and seventh semester students are for the most part those who will spend the whole of the academic year as freshmen and seniors respectively. These were chosen as more appropriate representatives of the freshmen and seniors than people who achieved or left these ranks at mid-year. The study was confined to the College of Arts and Sciences for three reasons. First, this segment of the university is most like the other college groups which were included in the study. Second, in order to get sufficiently large samples from the other 10 divisions of the university to permit analysis of their characteristics, it would have been necessary to question a prohibitively large number of subjects. Third, the College of Arts and Sciences is the largest and most diverse division of the university.

A primary data collection goal was to obtain 120 completed questionnaires from each of four categories of students: freshmen men, freshmen women, senior men, and senior women. Since the only listing that was available at the time of the study was somewhat out of date it was decided to oversample each of these groups. Of the 332 first semester freshmen men and the 372 freshmen women, samples of 180 were drawn. All of the 139 seventh semester senior women were included in the sample as was a group of 150 out of the 231 seventh semester senior men. Every student who had left college or had become a commuter between the time the Directory was compiled and the time of the study was discarded from the sample without replacement. The adjusted sample contained only subjects who were living on campus at the university at the time of this study.

Every subject within each sub-category had an equal chance of being selected. This was a probability sample stratified by sex and semester in college. The number of people in each sampling category after adjustment for drop-outs from college and changes to commuting, and their response, are tabulated in Table 26.

Table 26

ADJUSTED SAMPLE SIZE,
AND FREQUENCIES AND PERCENTAGES OF QUESTIONNAIRES
COMPLETED BY STATE UNIVERSITY MEN AND WOMEN

	Men			Women		
	No. of Ss	Completed Quest's	Percent Completed	No. of Ss	Completed Quest's	Percent Completed
Seniors	134	126	94.0	129	119	92.2
Freshmen	154	131	85.1	162	154	95.1
Totals	288	257	89.2	291	273	93.8

Non-respondents.- Among the men there were 14 who refused to cooperate in the study. There were 23 additional men who were either not located by the agents, or they were located on one occasion but could not be located on the call-back for collection of the completed questionnaire. This second group was followed up by a July mail appeal. Women refused to cooperate in 15 cases. Only 3 women were not contacted on at least two occasions, that is on a distribution and a collection call.

The agents reported very little resistance to the questionnaire form or content. Refusals came largely from people who could not be bothered or did not want to give the time to the task. No one refused on the grounds that they were being forced to admit thinking in stereotypes. It is also worth noting that few of these students were disturbed by their lack of contact with the listed occupations.

Data Collection.- Four undergraduates, two men and two women, were hired to distribute and collect questionnaires. Each agent was given a list of around 160 men or women arranged alphabetically by living unit. The total list of men (or women) was divided into two approximately equal parts by an unbiased technique and each half was given to an agent. In this way both agents were required to contact people throughout the entire campus.

After a training session the agents began their work on March 4, 1959. They were instructed to find every person on their list or establish positively that he was no longer in college. Their technique was to deliver the questionnaire in person to the subject, explain its purpose, request cooperation, and indicate a date on which they would return to collect it. Every subject was given an envelope addressed to the agent in which to deposit the completed questionnaire. The agent usually re-visited the subject within a few days with further call-backs whenever they were necessary. In most cases only one collection call was required. Phone calls, notes, postcards, etc. were used when a subject was noticeably delinquent. This routine was used until the end of term on May 29.

There were differences among the agents in their effectiveness. One girl was able to obtain completed questionnaires from every subject on her list, while one of the men was able to obtain usable returns from but 81.8% of the men on his list. In the latter case 18 subjects were not contacted due to confusion in locating students in one dormitory during the last week of the semester. The nature of the difficulty was such that the loss of these subjects probably did not introduce any systematic bias in the sample.

On July 8, a letter, a copy of the questionnaire, and a return envelope were mailed to each of the men whom the agents had been unable to contact during the term. The post office was able to forward only eight of the 23 envelopes sent. By July 31, the final day of data collection, five of these questionnaires had been completed and returned.

General Features of Sampling and Data Collection

Cooperation of Subjects

There were some general trends of note in the receptivity of subjects to the occupations questionnaire. Table 27 shows the returns of completed questionnaires from the main categories of undergraduate subjects.

Table 27

PERCENTAGE RETURNS OF COMPLETED QUESTIONNAIRES BY CLASS AND SEX OF UNDERGRADUATES

	Men %	Women %	Totals %
Senior	92.7[a]	90.7	91.6
Freshmen	91.3	95.0	92.9
Totals	91.8	93.0	92.4

[a] Seniors at Private Liberal Arts College II are not included.

Seniors from the second private men's college were excluded from the summary percentages in Table 27 because of the unfavorable conditions under which they were contacted. It is certain that returns from this group would have been much greater had they been contacted and followed up independent of the continuing study in which they were subjects.

The data in Table 27 indicate that participation in the study was uniformly high for all four categories of subjects. However, the agents reported that women and freshmen were easier to work with than men and seniors. There appear to be several reasons for this. First, freshmen and women were more likely to complete the questionnaire even when they offered criticisms of its form or content. Second, women and freshmen were more easily located than men and seniors. The former were more frequently in their rooms or at the addresses listed for them. Third, men and seniors believed that they were extremely busy while freshmen and women seemed to have fewer pressing duties. Finally, the seniors were more likely than freshmen to be test-wise and test-weary.

Another observation of interest concerns the difference between private and public liberal arts college students. There appeared to be considerably more resistance to the study at the private colleges. The state university students were regularly pleased to have an opportunity to fill out the questionnaire. Very few of them expressed any antagonism to the task. It seemed that many of the students at the publicly supported college valued the attention they received in being asked to help the project. The absence of criticism from this group on semantic or methodological grounds provided a striking contrast with the private college students. The explanation for the difference appears to be twofold. The students in a large public university are pleased to receive personal attention and to have their personal beliefs assigned some value. The private college students experience a great deal of personal attention and scrutiny. They seem somewhat less impressed with the additional attention implied by a questionnaire. The other part of this explanation appears to derive from population differences between the two types of schools. Critical, analytical, and even cynical attitudes are more common among the private college students. This is coupled with an apparent unwillingness on the part of some private college people to expose themselves. They will not admit that they must classify and categorize observation and experience. For these people the occupations questionnaire is threatening.

In the judgment of the experimenters, the personal contact delivery of questionnaires was a most important feature of the study. The probability of cooperation was greatly enhanced by a face-to-face meeting with the subject. When a mailed questionnaire was used even under favorable circumstances, it had to be followed up repeatedly to get a satisfactory return. However, it was quite difficult to deny a small favor to a student who came to the door with a request for a little time. Once the obligation was incurred most students did not ignore the commitment. In many cases the expectation of a return visit from the same agent probably confirmed the subject's resolve to cooperate.

Provided that the sample is confined to the limited area of a small or middle-sized campus the cost of the personal contact procedure is not very much greater than a mail technique with repeated follow-ups. A rough estimate places the cost of the personal contact procedure at about 20% greater than the mailing technique. The returns are almost certain to be higher when personal contact is made.

Agents

Student agents were employed to distribute and collect questionnaires. Their functions varied with the design of the data gathering procedures at each college. They were recruited through faculty members at the colleges. Their pay was consistent with the highest prevailing undergraduate hourly rate in their institution.

The most elaborate and general staffing procedure was developed at the state university. A graduate student was hired as a field supervisor for a fixed amount. Four undergraduate agents, two men and two women, were recruited to distribute and collect questionnaires. They were paid a modest hourly rate plus a bonus for each completed questionnaire they obtained. An additional bonus was paid each agent for all questionnaires collected beyond the 80% returns percentage for his sample. The agents kept complete records of their contacts with subjects and the hours they worked.

A training session was conducted by one of the experimenters with the state university staff. He met with the entire staff on three other occasions. All of the other contacts with the agents were carried out by the field supervisor. The agents were given complete freedom to develop contact procedures which fit with their schedules and habits. They reported on their progress to the supervisor about once a week.

Distribution of the Different Forms of the Questionnaire

Thirty different variations of the basic questionnaire were employed in the study. These consisted of the Osgood (O) and Cattell (C) forms which contained different scales and 15 different orderings of the occupations to be evaluated. Both the O and C forms were arranged in the 15 orders making up the 30 variations of the questionnaire.

After the questionnaires were collated they were stacked so that the O and C forms alternated in every pile. The piles were also arranged so that the occupational orders varied from one questionnaire to the next. A common arrangement was to pile the questionnaires in the order C 1, O 15, C 2, O 14, etc. for the first 30 then to switch to C 15, O 1, C 14, O 2, etc. for the following 30. This assured that the different forms of the questionnaire would be distributed quite widely. Questionnaires were taken from the top of each pile for distribution no matter which of the data collection procedures was being followed.

These devices provide reasonable assurance that the O and C forms reached random halves of each population. Also, the different occupational order forms should be distributed randomly throughout any group.

The only exception to this procedure occurred with the Wesleyan student sample. In this case one sub-sample was given only O forms and the second sub-sample received C forms exclusively. However, the arrangement of occupational orderings was the same as that used in all the other samples.

Procedures for Handling Incomplete Questionnaires

Because of the length of the questionnaire approximately 10% of the questionnaires which were returned contained one or two unmarked pages. The standard procedure was to send back to the subject only the page(s) he failed to fill out, an explanatory letter, an instruction sheet and a return envelope. This method was used at Wesleyan, the second private men's college, and the private women's college. At the state university the uncompleted pages were returned by the agent, in person. About 80% of the subjects contacted responded to the request that the questionnaire be completed so that it could be analyzed in its entirety.

APPENDIX III

TABULAR SUMMARIES

Table 28

OCCUPATIONAL STATUS OF FATHERS OF ALL COLLEGE STUDENTS IN THE STUDY

Occupational Status	Wesleyan (N=154) %	Priv.Men's Lib. Arts Coll. II (N=275) %	Private College Women (N=219) %	State University Men (N=257) %	State University Women (N=273) %
A. High-status Professional (Doctor, Lawyer, College Professor, etc.)	32	36	40	11	11
B. Lower-status Professional (School Teacher, Pharmacist, Librarian)	3	8	6	5	8
C. High Managerial and Entrepreneurial (Executive positions)	14	19	21	5	5
D. Middle Managerial and Entrepreneurial (Managers)	27	24	26	19	23
E. Lower Managerial and Small Enterprise	9	8	5	19	21
F_1 White-Collar Office and Factory Supervisory Personnel	3	1	1	21	14
F_2 Store Clerks and Skilled Workers	2	1	1	11	10
F_3 Semi-skilled Workers	-	1	-	9	5
G. Other, or Uncodeable	10	2	-	1	3

Table 29

OCCUPATIONAL STATUS ASPIRATIONS OF ALL COLLEGE MEN AND ASPIRATIONS IN TERMS OF HUSBAND'S EXPECTED OCCUPATIONAL STATUS FOR ALL COLLEGE WOMEN

	Occupational Status	Wesleyan (N=154) %	Priv.Men's Lib. Arts Coll. II (N=275) %	Private College Women[a] (N=219) %	State University Men (N=257) %	State University Women[a] (N=273) %
A.	High-status Professional (Doctor, Lawyer, College Professor, etc.)	52	54	53	41	42
B.	Lower-status Professional (School Teacher, Pharmacist, Librarian)	10	13	6	28	19
C.	High Managerial and Entrepreneurial (Executive positions)	18	6	27	3	8
D.	Middle Managerial and Entrepreneurial (Managers)	5	11	3	8	14
E.	Lower Managerial and Small Enterprise	-	1	1	2	3
F.	White- and Blue-Collar Workers	-	-	-	-	1
G.	Other, or Uncodeable	16	14	10	18	12

[a] The occupational status of "most probable husband" is the source of status estimate for women.

Table 30

TYPES OF COMMUNITIES IN WHICH ALL COLLEGE STUDENTS SPENT MOST OF THEIR CHILDHOOD

Community Type (pop. in thousands)	Wesleyan (N=154) %	Priv.Men's Lib. Arts Coll. II (N=275) %	Private College Women (N=219) %	State University Men (N=257) %	State University Women (N=273) %
A. Rural Area or Small Town (<10)	21	24	14	23	27
B. Small City (10-100)	29	18	23	40	35
C. Large City (>100)	19	22	27	26	23
D. Suburb	30	37	37	11	16

Table 31

ACADEMIC MAJOR OR INTENDED MAJOR OF ALL COLLEGE STUDENTS IN THE STUDY

Major Field	Wesleyan (N=154) %	Priv.Men's Lib. Arts Coll. II (N=275) %	Private College Women (N=219) %	State University Men (N=257) %	State University Women (N=273) %
A. Natural Science	11	18	6	21	6
B. Biology (incl. pre-med.)	14	15	3	5	4
C. Psychology and Sociology	5	3	10	9	16
D. Mathematics	8	4	5	5	4
E. Social Science (Econ., Gov't, Area Studies)	18	12	12	15	5
F. Humanities (History, Phil., Religion)	19	21	19	11	7
G. English and Literature	11	14	18	10	26
H. Languages	6	2	8	2	5
I. Arts	2	3	16	3	5
J. Education	-	-	2	1	10
K. Applied Fields	-	-	-	8	9
L. Undecided or Uncodeable	6	7	-	10	2

Table 32

OCCUPATIONAL INTENTIONS OF
ALL COLLEGE MEN IN THE STUDY

Occupational Intention	Wesleyan (N=154) %	Priv.Men's Lib. Arts Coll. II (N=275) %	State University Men (N=257) %
A. Business Executive	5	4	1
B. Business (unspecified), Business (not otherwise classified)	12	10	9
C. Sales Manager, Salesman, Insurance Sales and Brokerage, Banking	5	2	3
D. Industrial Manager, Office Supervisor, Personnel, Retail Store Manager	-	2	2
E. Independent Entrepreneur	1	-	-
F. College Professor	3	5	4
G. School Teacher	3	1	4
H. Teacher (unspecified)	7	8	11
I. Scientist	6	6	9
J. Minister, Foreign Service, Public Administration	7	5	3
K. Doctor	19	21	7
L. Engineer	5	2	2
M. Lawyer	8	11	11
N. Writer, Architect, and Professional (not otherwise classified)	5	6	15
O. Other, or No Answer	13	16	20

Table 33

SCALES SHOWING SIGNIFICANT DIFFERENCES BETWEEN 12 PAIRS OF OCCUPATIONS AT WESLEYAN[a, b]

Scale		Pairs of Occupations Compared[c]											
No.	Name	04 05	04 12	04 14	04 15	05 12	05 14	05 15	12 14	12 15	14 15	01 09	09 11
1 J	Wealthy	s	s	s	s	s	s	s	s	s	s		s
2 J	Conformist	s	s		s	s	s		s	s	s		
3 J	Prety Wife	s	s	s	s	s	s	s	s	s		s	
4 J	Plys Poker	s	s			s	s	s	s	s		s	
5 J	Good Taste	s	s	s	s	s	s	s	s	s			s
6 J	Happy Home		s	s		s	s	s		s	s	s	
7 J	Cleancut	s	s	s		s	s	s	s	s	s	s	
8 J	Optn Advan	s	s	s	s	s		s		s	s	s	s
9 J	Plys Chess	s	s		s	s	s	s	s	s	s	s	s
10 J	Intrst Art	s	s	s	s	s	s		s	s			s
11 J	Hi Soc Sta	s	s	s	s	s	s	s	s	s	s	s	
12 J	Successful	s	s		s	s	s	s	s	s	s		s
13 J	Pers Satis		s			s	s			s		s	
14 J	Plys Bridg		s	s	s	s	s	s	s	s		s	
15 J	Powful Afr	s	s		s	s	s	s	s	s	s		
16 J	Soc Poplar	s		s	s	s	s	s	s	s	s	s	
17 J	Conservtiv	s	s		s		s	s	s	s	s		s
18 J	Valuable	s	s		s	s	s	s	s	s	s	s	
23 J	Optimistic	s	s	s	s	s	s			s	s	s	
32 J	Calm	s	s	s	s	s	s	s	s	s		s	
34 J	Psnly Efft	s	s	s	s	s	s	s				s	
35 J	Like to be		s	s	s	s	s	s	s		s	s	s

[a] N = 154, scales in both forms (J); N = 55, Osgood form;
N = 99, Cattell form.

[b] "s" indicates a significant difference ($P < .05$ or $P < .01$) between the 2 occupations compared.

[c] See Table 2, page 16, for names of occupations.

Table 33 - Continued

SCALES SHOWING SIGNIFICANT DIFFERENCES BETWEEN 12 PAIRS OF OCCUPATIONS AT WESLEYAN

Scale		Pairs of Occupations Compared											
		04	04	04	04	05	05	05	12	12	14	01	09
No.	Name	05	12	14	15	12	14	15	14	15	15	09	11
19 O	Deep	s	s	s	s	s		s	s	s	s		s
20 O	Stable	s				s	s	s				s	
21 O	Active	s		s		s		s			s	s	
22 O	Colorful		s	s	s	s	s	s			s		
24 O	Hard				s			s		s	s	s	
25 O	Hot	s		s									
26 O	Cautious	s	s	s	s	s	s	s				s	
27 O	Interestng		s	s	s	s		s	s		s		
28 O	Unselfish	s	s		s	s	s		s	s	s		
29 O	Wise	s	s	s	s	s		s	s	s	s		
30 O	Strong	s				s	s	s					
31 O	Sensitive	s	s	s		s	s	s	s	s	s		s
33 O	Rational		s	s	s	s	s	s	s		s	s	
19 C	Adaptl Hbt	s			s	s	s		s	s	s	s	
20 C	Intellignt	s	s		s	s	s	s	s		s	s	
22 C	No Emot Pb	s	s	s	s						s		
23 C	Self Asstv			s	s		s	s	s	s	s	s	
24 C	Cheerful	s	s	s	s	s	s	s	s		s	s	
25 C	Perseverng	s		s		s	s	s	s		s	s	s
26 C	Atentv Ppl	s		s	s	s	s		s	s	s	s	
28 C	Realst Lif	s				s	s	s					s
29 C	Thoughtful	s	s	s	s	s		s	s	s	s		
30 C	Confident	s	s		s	s	s	s	s	s	s	s	
31 C	Self Sufnt	s		s		s	s	s	s	s	s	s	
32 C	Responsibl	s				s	s	s		s			
33 C	Sociable	s	s	s	s		s		s		s	s	

Table 34

SCALES SHOWING SIGNIFICANT DIFFERENCES BETWEEN 12 PAIRS OF OCCUPATIONS AT THE PRIVATE WOMEN'S COLLEGE[a,b]

Scale		Pairs of Occupations Compared[c]											
No.	Name	04 05	04 12	04 14	04 15	05 12	05 14	05 15	12 14	12 15	14 15	01 09	09 11
1 J	Wealthy	s	s	s	s	s	s	s		s	s		s
2 J	Conformist	s	s	s	s	s	s	s	s	s	s		s
3 J	Prety Wife	s	s	s	s	s	s	s	s	s			
4 J	Plys Poker	s	s		s	s	s		s	s	s	s	
5 J	Good Taste	s	s	s	s	s	s	s	s		s		s
6 J	Happy Home		s	s		s	s			s	s		
7 J	Cleancut	s	s	s	s	s	s	s	s	s	s		
8 J	Optn Advan	s	s	s	s	s		s	s	s	s		
9 J	Plys Chess	s	s		s	s	s	s	s	s	s	s	
10 J	Intrst Art	s	s	s	s	s	s	s	s	s			s
11 J	Hi Soc Sta	s	s		s	s	s	s	s	s	s		s
12 J	Successful	s	s		s	s	s	s	s		s		s
13 J	Pers Satis	s	s	s		s	s	s	s	s	s		s
14 J	Plys Bridg		s	s	s	s	s	s					
15 J	Powful Afr	s	s	s	s	s	s	s	s	s			s
16 J	Soc Poplar	s	s	s	s	s	s	s	s		s		
17 J	Conservtiv	s	s	s	s		s	s	s	s	s		
18 J	Valuable		s		s	s	s	s	s	s	s	s	
23 J	Optimistic	s	s		s	s	s	s	s	s	s	s	
32 J	Calm	s			s	s	s	s		s	s	s	s
34 J	Pesly Efft	s	s	s	s	s	s	s	s	s		s	
35 J	Like to be	s	s	s	s	s	s	s	s	s	s		

[a] N = 209, scales in both forms (J); N = 109, Osgood form; N = 110, Cattell form.

[b] "s" indicates a significant difference (P < .05 or P < .01) between the 2 occupations compared.

[c] See Table 2, page 16, for names of occupations.

Table 34 - Continued

SCALES SHOWING SIGNIFICANT DIFFERENCES BETWEEN 12 PAIRS OF OCCUPATIONS AT THE PRIVATE WOMEN'S COLLEGE

Scale		Pairs of Occupations Compared											
		04	04	04	04	05	05	05	12	12	14	01	09
No.	Name	05	12	14	15	12	14	15	14	15	15	09	11
19 O	Deep	s	s	s	s	s	s		s	s	s		s
20 O	Stable	s			s	s	s	s	s	s	s		s
21 O	Active		s			s			s	s	s	s	s
22 O	Colorful	s	s	s	s	s			s	s		s	
24 O	Hard		s	s	s	s	s	s		s	s	s	
25 O	Hot		s	s	s	s	s	s		s	s		s
26 O	Cautious	s	s	s	s	s	s	s	s		s	s	
27 O	Interestng	s	s	s	s	s			s	s			
28 O	Unselfish	s	s	s	s	s	s	s	s	s	s		s
29 O	Wise		s	s	s	s	s	s	s	s	s		
30 O	Strong	s	s		s	s	s	s	s	s	s	s	s
31 O	Sensitive	s	s	s	s	s	s	s	s	s	s	s	
33 O	Rational		s		s	s		s	s	s	s	s	s
19 C	Adaptl Hbt	s			s	s	s	s		s	s		s
20 C	Intellignt	s	s		s	s		s	s	s	s	s	s
22 C	No Emot Pb	s	s		s	s	s	s	s	s	s		
23 C	Self Asstv				s	s	s	s		s		s	
24 C	Cheerful	s	s	s	s	s	s		s		s	s	
25 C	Perseverng	s	s	s		s		s	s	s	s		
26 C	Atentv Ppl	s		s	s	s	s	s	s	s	s	s	
28 C	Realst Lif	s	s		s	s	s	s	s	s	s		
29 C	Thoughtful	s	s	s	s	s		s	s	s	s		
30 C	Confident	s	s			s	s	s	s		s	s	s
31 C	Self Sufnt	s	s	s		s		s	s	s			
32 C	Responsibl	s	s		s	s	s	s		s	s		
33 C	Sociable	s	s	s	s	s	s		s		s	s	

NOTE

TO TABLES 35 and 36

Approximately half of the scale scores in Tables 35 and 36 have been converted so that the "desirable" ends of all scales have a value of 1.0 and the "undesirable" ends a value of 7.0. In general, the lower the score of an occupation the more it sh shares in a desirable attribute such as wealth, optimism, etc. For a few scales the assignment of a desirable end was arbitrary (*e.g.*, soft-hard or conservative-radical). The tables are arranged so that the lower the tabulated value the more applicable the scale term located at the left of the table to the occupation in question. The occupation numbers identify the occupations in accordance with the numbering system referred to in Table 2, page 16.

For additional information on the entries in Tables 35 and 36 see page 31.

TABLE 35

AVERAGE MALE PROFILES [a]

Scale		Occupation														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1-J	Wealthy	39	52	20	45	20	28	28	21	40	36	36	33	53	37	54
2-J	Individist	51	16	43	25	37	38	45	33	51	47	50	47	38	22	38
3-J	Prety Wife	39	35	26	38	29	36	33	29	37	33	37	33	38	42	42
4-J	Plys Poker	33	47	29	46	39	33	28	33	31	35	30	29	42	47	47
5-J	Good Taste	39	29	27	31	27	37	35	25	38	30	36	33	32	40	37
6-J	Happy Home	34	42	36	28	29	32	34	32	34	31	34	34	29	35	30
7-J	Cleancut	32	53	22	36	23	30	28	24	28	23	29	25	29	44	32
8-J	Optn Advan	37	47	22	40	23	23	26	22	35	32	38	29	48	25	51
9-J	Plys Chess	40	35	40	25	33	35	45	32	46	41	48	46	32	26	40
10-J	Intrst Art	45	12	37	22	32	41	45	33	46	39	48	45	28	37	36
11-J	Hi Soc Sta	39	45	20	28	16	28	29	20	38	33	38	34	39	29	46
12-J	Successful	34	39	21	24	17	23	26	21	35	30	32	30	31	23	36
13-J	Pers Satis	42	17	31	17	16	28	36	23	41	33	41	38	19	18	19
14-J	Plys Bridg	33	43	27	28	29	35	36	28	35	31	37	33	30	37	36
15-J	Powful Afr	46	57	25	33	33	39	34	21	47	40	47	42	40	36	45
16-J	Soc Poplar	36	39	23	29	21	31	29	23	33	28	32	29	30	37	33
17-J	Conservtiv	27	59	29	43	29	37	31	37	27	29	29	32	33	48	36
18-J	Valuable	31	30	26	17	15	21	29	22	35	30	34	33	18	16	23
19-O	Deep	44	22	37	20	26	33	42	27	45	39	47	43	29	23	33
19-C	Adaptl Hbt	42	39	34	36	30	33	34	31	38	30	36	33	34	36	28
20-O	Stable	29	56	34	36	27	34	32	33	34	32	36	38	34	38	33
20-C	Intelligent	27	25	22	13	15	19	27	17	33	27	33	30	21	13	28
21-O	Active	43	29	24	30	22	29	29	23	37	34	36	31	30	27	29
22-O	Colorful	46	20	32	29	28	39	39	28	44	38	44	37	34	35	37
22-C	No emot Pb	41	54	46	44	41	43	42	41	42	40	44	42	43	44	42
23-C	Self-Asstv	43	26	22	28	25	31	25	19	34	29	32	27	32	30	35
23-J[b]	Optimistic	39	39	29	34	26	30	31	28	36	30	34	30	31	29	26
24-O	Hard	43	46	31	40	42	36	31	31	37	39	35	35	44	36	52
24-C	Cheerful	39	46	31	33	25	34	32	31	34	28	33	30	32	39	29
25-O	Hot	46	30	39	38	38	40	41	36	44	40	43	40	39	42	37
25-C	Perseverng	26	27	22	23	18	21	24	18	30	27	28	24	25	16	22
26-O	Cautious	25	53	30	35	24	32	32	31	31	29	32	34	32	31	31
26-C	Atentv Ppl	41	44	28	26	17	40	30	21	29	19	27	25	21	48	16
27-O	Interestng	47	23	33	24	24	34	38	25	45	35	45	38	30	28	34
28-O	Unselfish	40	40	46	30	25	39	42	39	42	36	45	45	26	31	21
28-C	Realst Lif	34	44	28	29	19	29	29	23	35	30	32	32	29	29	26
29-O	Wise	35	37	30	20	21	29	33	23	37	32	37	36	26	22	31
29-C	Thoughtful	37	27	31	19	20	30	34	22	38	31	39	37	23	22	24
30-O	Strong	43	40	29	34	25	32	30	27	37	35	39	33	36	34	35
30-C	Confident	34	38	22	28	20	25	25	20	31	27	32	26	30	26	30
31-O	Sensitive	42	18	42	27	30	41	45	36	43	38	45	43	28	32	26
31-C	Self-Sufnt	31	41	31	29	23	26	32	29	37	33	34	34	31	25	30
32-C	Responsibl	24	31	20	21	14	21	21	19	25	23	25	25	22	22	21
32-J[c]	Calm	33	55	40	37	22	35	39	34	39	30	40	41	37	37	32
33-O	Rational	30	53	35	30	27	26	32	27	36	32	37	37	33	27	37
33-C	Sociable	38	44	19	32	23	35	25	21	28	22	27	23	29	46	23
34-J	Pesly Efft	38	35	25	23	18	29	31	21	37	30	37	32	27	29	30
35-J	Like to be	52	42	30	29	30	38	40	29	47	39	50	47	35	34	46

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[a] Average rating to one decimal place, decimal points omitted; see Note.

[b] 23-J = 23-O + 27-C.

[c] 32-J = 32-O + 21-C.

TABLE 36

AVERAGE FEMALE PROFILES [a]

Scale		Occupation														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1-J	Wealthy	41	55	18	47	19	25	30	19	44	38	37	37	54	39	54
2-J	Individist	53	14	52	24	39	40	49	38	55	46	52	51	38	19	32
3-J	Prety Wife	39	35	24	40	30	34	34	28	37	34	37	34	41	43	43
4-J	Plys Poker	33	42	34	46	42	35	30	39	29	36	29	28	43	48	45
5-J	Good Taste	38	27	25	30	24	32	36	23	39	29	34	35	32	40	36
6-J	Happy Home	34	45	35	28	28	30	35	30	35	32	35	34	28	35	28
7-J	Cleancut	28	55	20	35	20	26	29	21	27	22	29	26	28	44	29
8-J	Optn Advan	37	47	18	37	20	19	26	18	37	31	37	31	46	21	49
9-J	Plys Chess	43	35	40	25	32	35	45	30	48	43	49	47	32	27	41
10-J	Intrst Art	45	12	37	20	31	38	45	31	48	39	45	46	25	35	34
11-J	Hi Soc Sta	39	46	18	27	16	24	32	16	42	34	38	37	37	27	44
12-J	Successful	33	40	18	22	15	19	26	17	36	29	31	30	30	22	32
13-J	Pers Satis	44	16	32	16	14	25	37	20	44	32	41	40	18	16	15
14-J	Plys Bridg	34	43	25	26	28	32	35	27	36	31	37	35	28	36	33
15-J	Powful Afr	46	59	22	35	29	37	33	17	48	40	44	44	38	41	40
16-J	Soc Poplar	34	39	19	26	18	28	29	20	34	27	32	30	29	38	30
17-J	Conservtiv	25	61	25	43	27	35	31	34	26	28	27	29	33	25	37
18-J	Valuable	30	24	26	14	12	18	29	18	35	28	34	33	16	14	18
19-O	Deep	41	19	37	17	22	31	40	25	45	36	45	44	22	19	24
19-C	Adaptl Hbt	41	39	36	37	29	34	36	32	38	31	34	33	33	36	24
20-O	Stable	26	60	28	33	20	29	31	28	31	29	33	35	29	38	26
20-C	Intellignt	28	22	21	12	13	16	28	14	35	26	33	31	18	12	23
21-O	Active	44	24	25	23	20	28	28	19	39	30	35	32	24	25	21
22-O	Colorful	49	16	34	23	27	35	38	25	46	36	42	38	30	30	30
22-C	No Emot Pb	40	56	45	43	35	40	41	40	42	38	42	42	41	44	38
23-C	Self-Asstv	42	24	20	25	21	28	25	18	32	27	29	27	28	26	27
23-J[b]	Optimistic	38	42	29	34	25	30	35	28	36	28	34	30	30	31	23
24-O	Hard	40	47	31	39	43	34	29	29	36	38	35	35	45	35	50
24-C	Cheerful	38	49	31	34	23	32	34	31	33	26	31	29	30	41	25
25-O	Hot	46	26	45	38	39	42	44	42	46	40	43	40	38	42	34
25-C	Perseverng	27	24	20	19	15	19	24	16	29	25	27	25	22	14	17
26-O	Cautious	23	56	27	34	20	28	29	25	28	27	29	33	28	28	29
26-C	Atentv Ppl	29	44	25	24	14	39	30	18	28	17	25	23	18	48	13
27-O	Interestng	48	17	33	19	21	32	39	22	47	32	44	40	23	25	24
28-O	Unselfish	38	44	45	29	20	38	43	36	42	35	44	43	24	32	17
28-C	Realst Lif	34	42	31	25	17	27	31	21	35	27	33	32	27	27	19
29-O	Wise	33	38	29	19	18	26	32	20	36	30	36	35	23	20	24
29-C	Thoughtful	38	22	31	16	18	28	36	19	40	28	37	38	21	19	19
30-O	Strong	40	38	26	29	20	27	28	23	37	32	35	35	30	28	25
30-C	Confident	34	40	21	26	18	24	26	18	32	25	29	26	28	28	24
31-O	Sensitive	41	13	41	23	26	38	44	34	44	34	45	48	24	29	21
31-C	Self-Sufnt	32	38	29	26	19	23	30	25	37	29	34	35	28	21	24
32-C	Responsibl	23	46	19	21	13	19	21	16	25	21	23	25	19	22	17
32-J[c]	Calm	29	60	36	37	18	30	34	32	35	27	38	37	32	38	24
33-O	Rational	25	58	29	28	26	25	30	25	32	37	35	37	30	28	40
33-C	Sociable	35	43	18	31	20	31	26	19	27	19	25	23	28	47	21
34-J	Pesly Efft	37	32	25	20	15	26	32	18	38	29	36	34	24	25	24
35-J	Like to be	43	50	16	32	15	15	30	14	45	41	47	43	42	21	52

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[a] Average rating to one decimal place, decimal points omitted; see Note.

[b] 23-J = 23-O + 27-C.

[c] 32-J = 32-O + 21-C.

NOTE

TO TABLES 37 to 39

Signs of correlations and factor loadings are in terms of scales as they appeared in the questionnaire (NOT, as is the case elsewhere in this report, with reference to the "desirable" end of the scale). See Table 1, page 14, which indicates scale direction in the questionnaire.

Factor numbers indicate the sequence in which the factors emerge from the Quartimax procedure. See note to Tables 40 to 43 for correspondence of factors in the two forms.

TABLE 37

CORRELATION MATRIX - OSGOOD FORM (N = 48)[a]

Scale No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1		16	38	-18	26	-18	40	52	07	11	56	-44	05	-19	41	-35	-20	-10
2			05	-22	-12	-01	31	01	-39	-40	-09	13	-46	03	-10	-01	-54	35
3				-19	32	-16	28	-28	05	-04	30	-21	09	-14	24	-29	-03	-08
4					02	14	-22	09	25	-21	01	01	25	11	07	12	14	-19
5						-33	32	-25	18	-28	35	-38	35	-11	28	-39	-00	-33
6							-35	21	-05	13	-16	33	-23	22	-14	37	21	30
7								-24	-10	16	31	-31	01	-23	23	-40	-47	-12
8									-15	05	-52	58	-21	13	-35	36	10	29
9										-44	27	-28	42	-17	24	-16	27	-37
10											-14	22	-47	13	-17	16	-28	33
11												-60	33	-26	54	-45	-05	-38
12													-42	28	-46	54	09	55
13														-12	32	-29	28	-63
14															-19	31	15	12
15																-33	02	-32
16																	21	44
17																		-11
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

[a] Decimal points omitted; see Note, Tables 37-39.

TABLE 37 - Continued

Scale No.	Scale Number																
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1	02	-22	18	-06	21	-21	-02	-24	10	11	17	-28	-25	-24	18	23	33
2	-53	-24	-25	45	00	-06	-25	-23	-45	27	-32	07	-40	-23	21	-31	-16
3	07	-02	16	-14	10	-11	11	-01	17	05	06	-15	-08	01	-03	24	17
4	30	00	00	-12	-05	00	04	04	-18	-16	20	03	26	-04	02	12	06
5	27	-05	32	-37	16	-05	24	-11	42	-18	36	-27	17	-11	-05	43	23
6	-15	26	-23	14	-20	-03	-08	31	-21	28	-30	29	-07	26	-05	-31	-11
7	-07	-33	21	01	33	-04	-02	-41	03	-11	19	-28	-19	-40	16	24	14
8	-17	12	-28	2[illegible]	-24	22	-02	18	-21	08	-30	38	10	21	-21	-33	-43
9	48	12	14	-37	03	-01	12	07	36	-19	34	-19	28	03	-01	33	21
10	-49	-19	-26	52	-04	-10	-22	-19	-46	21	-30	15	-43	-08	11	-37	-20
11	28	-16	29	-29	22	-18	13	-21	34	-12	40	-36	-04	-24	14	48	45
12	-31	22	-40	33	-28	20	-06	27	-37	26	-53	50	-10	31	-15	-50	-41
13	65	-00	43	-56	24	08	31	03	63	-45	58	-32	49	-09	-09	60	31
14	-11	14	-17	13	-13	07	-01	12	-09	12	-16	17	02	09	-01	-23	-11
15	32	-18	32	-30	19	-15	13	-13	34	-17	36	-31	04	-16	09	44	35
16	-25	21	-37	30	-29	07	-13	27	-37	29	-39	41	-09	29	-12	-47	-36
17	35	45	12	-29	-11	06	26	46	30	-02	09	09	26	-43	-25	10	02
18	-62	17	-47	49	-25	02	-22	20	-56	48	-68	46	-35	23	-06	-63	-40
19		02	46	-60	17	06	31	06	68	-44	62	-34	47	-03	-05	59	34
20			-03	-12	-18	07	20	51	06	17	-20	23	13	49	-29	-11	-07
21				-55	46	-06	32	-03	51	-28	41	-44	17	-11	-00	48	29
22					-29	-05	-41	-14	-69	31	-46	35	-38	-03	18	-51	-33
23						05	23	-18	30	-26	26	-36	08	-26	13	27	18
24							24	07	06	-25	-06	18	35	11	-07	00	-13
25								28	44	-22	22	-08	25	17	-27	34	15
26									08	20	-25	20	15	52	-32	-12	-08
27										-42	59	-42	44	-06	-11	64	35
28											-53	27	-42	21	01	-43	-20
29												-50	33	-29	05	64	41
30													-06	34	-15	-45	-33
31														12	-16	34	12
32															-31	-16	-18
33																00	07
34																	45
35																	

TABLE 38

CORRELATION MATRIX - CATTELL FORM (N = 48)[a]

Scale No.	Scale Number																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1		11	36	-13	31	-10	37	-57	14	-01	59	-53	06	-20	48	-30	-17	-11
2			13	-21	-09	-12	38	-01	-27	34	-02	05	-42	-12	05	-10	-63	20
3				-18	36	-19	36	-22	12	-11	24	-26	05	-13	23	-32	-08	-06
4					08	09	-18	03	12	-23	04	-01	26	22	-01	10	16	-13
5						-21	35	-31	23	-30	40	-38	32	-06	28	-40	02	-25
6							-39	06	-14	01	-14	22	-18	18	-18	27	18	25
7								-29	07	07	31	-27	01	-19	33	-38	-38	-13
8									-20	11	-53	56	-12	15	-43	29	03	23
9										-37	34	-26	35	-21	26	-20	12	-35
10											-25	18	-43	05	-13	17	-27	30
11												-63	33	-19	56	-44	-05	-37
12													-33	20	-47	41	02	43
13														-08	23	-26	28	-55
14															-22	25	21	18
15																-38	-11	-31
16																	18	34
17																		-06
18																		
19																		
20																		
21																		
22																		
23																		
24																		
25																		
26																		
27																		
28																		
29																		
30																		
31																		
32																		
33																		
34																		
35																		

[a] Decimal points omitted; see Note, Tables 37-39.

TABLE 38 - Continued

Scale No.	Scale Number																
	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
1	04	-21	09	-11	20	-20	21	-07	23	-24	12	-32	12	-28	24	26	36
2	-06	23	16	-10	-19	-17	-17	-15	-02	-02	-29	-03	-07	-21	29	-07	-10
3	13	-10	-00	04	16	-23	10	-15	20	-10	09	-19	-01	-09	29	21	18
4	04	-19	13	-04	06	03	02	06	01	00	16	06	08	08	-13	13	02
5	26	-34	09	-01	25	-27	22	-23	33	-22	35	-24	14	-22	31	40	32
6	-24	16	-24	20	-04	34	-20	33	-28	34	-23	21	-28	35	-22	-23	-15
7	25	-14	31	-23	10	-43	18	-45	27	-30	15	-28	15	-44	50	32	16
8	-17	34	-08	10	-23	20	-29	05	-20	21	-17	37	-15	26	-18	-30	-36
9	10	-40	13	02	20	-09	25	-03	10	-15	30	-14	22	-18	-01	30	23
10	-10	36	04	-10	-19	02	-17	04	-10	08	-40	13	-07	-03	00	-21	-21
11	08	-47	11	-08	29	-21	34	-14	19	-29	30	-38	16	-34	21	42	41
12	-14	48	-09	11	-30	24	-39	13	-27	32	-32	41	-20	37	-21	-43	-42
13	20	-51	10	-01	30	-14	36	-19	26	-25	57	-31	23	-14	07	43	27
14	03	17	-05	07	-08	17	-15	14	-13	16	-11	23	-11	19	-20	-13	-14
15	12	-34	19	-06	27	-25	27	-17	21	-27	27	-37	17	-31	31	41	36
16	-21	37	-15	11	-22	36	-25	36	-27	29	-27	37	-14	31	-46	-42	-23
17	03	-09	-26	13	11	20	02	19	-04	13	14	11	-04	28	-27	-02	02
18	-19	63	-19	-04	-24	17	-44	21	-20	35	-51	33	-30	35	-11	-45	-30
19		-20	23	-08	08	-31	21	-26	31	-29	34	-17	22	-25	23	28	10
20			-14	02	-28	21	-48	13	-21	35	-51	37	-30	35	-10	-47	-38
21				-39	09	-36	19	-26	28	-34	19	-25	30	-36	18	28	03
22					01	32	-05	18	-20	19	-07	18	-19	19	-09	-14	-05
23						-16	38	-18	24	-28	31	-40	14	-20	24	30	14
24							-29	47	-52	33	-24	43	-21	37	-53	-39	-13
25								-22	38	-41	49	-46	32	-40	17	36	23
26									-42	36	-33	32	-15	38	-54	-38	-10
27										-38	38	-45	30	-37	37	38	07
28											-41	47	-36	47	-25	-39	-18
29												-35	33	-31	15	46	26
30													-33	43	-35	-46	-21
31														-36	01	26	12
32															-36	-45	-20
33																40	12
34																	39
35																	

Table 39

ROTATED FACTOR LOADINGS[a]

Scale	Factor	(Osgood	Form)				Factor	(Cattell	Form)			
No.	1	2	3	4	5	6	1	2	3	4	5	6
1	06	74	21	-03	-04	-08	-02	17	-78	02	-04	-02
2	-56	13	42	05	-11	-17	-43	29	-08	59	-02	02
3	10	45	-03	21	-05	-24	-01	33	-36	-02	21	18
4	28	-17	-06	-35	22	08	32	-19	12	-18	-16	14
5	44	28	08	24	03	-25	32	36	-34	-15	10	32
6	-29	-09	-36	-39	02	06	-16	-44	07	-15	24	-12
7	04	34	55	26	-10	-27	-03	60	-33	27	-11	16
8	-25	-60	-16	-01	11	-16	-13	-10	71	09	05	08
9	51	09	-18	03	17	23	50	-04	-21	02	-10	13
10	-56	05	27	-16	-04	-06	-53	04	07	18	-14	-20
11	39	69	12	-02	11	-01	39	08	-70	09	02	03
12	-50	-50	-26	-20	01	-24	-37	-15	66	-01	01	06
13	80	-01	-04	01	07	02	75	09	-04	-19	02	07
14	-17	-21	-12	-33	-01	-06	-11	-18	20	-31	-03	09
15	41	50	09	-10	02	-06	28	20	-57	12	-00	01
16	-41	-37	-31	-34	09	07	-29	-45	33	-19	-14	-08
17	29	-12	-66	-14	07	11	23	-29	10	-64	10	02
18	-77	-07	-20	-01	-05	-16	-72	-11	14	-13	02	06
19	83	-03	-12	-14	02	04	20	40	-02	-18	-15	10
20	-02	-10	-68	10	-01	-03	-73	-06	28	-06	04	05
21	57	16	04	08	-47	-01	16	33	-02	15	-54	-01
22	-72	-08	25	-07	26	08	04	-26	07	-03	43	-04
23	33	10	28	01	-45	-10	33	19	-24	-16	12	-28
24	11	-40	-01	09	06	-29	-10	-69	14	03	19	02
25	40	-05	-27	05	-16	-39	48	25	-23	-08	-10	-35
26	-03	-13	-71	-03	-11	-11	-20	-69	-07	-10	-05	-00
27	81	08	-12	-04	-17	-18	21	59	-12	-22	-16	-16
28	-59	25	-29	-06	-07	07	-35	-42	16	-06	24	26
29	76	11	27	-09	07	06	69	28	-05	-15	-05	-05
30	-47	-27	-28	-04	30	-14	-33	-43	31	-02	06	39
31	55	-37	-13	06	17	-13	33	18	-08	02	-45	-14
32	-13	-14	-69	11	07	-07	-27	-43	24	-25	27	21
33	-07	14	39	-14	-05	23	04	70	-16	12	25	-01
34	76	24	11	07	02	-15	52	41	-27	01	-04	05
35	43	39	06	-08	-02	02	35	05	-44	01	05	14

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[a] Decimal points omitted; see Note to Tables 37-39.

NOTE

TO TABLES 40 to 43

All scales with a loading on a factor $\geq |.20|$ on either form are listed. The corresponding factors on the Osgood and Cattell forms of the tables have been paired as follows:

Factor Number in Tables 40 to 43	Factor Number in Table 39	
	Osgood	Cattell
I	1	1
II	2	3
III	4	2
IV	3	4

Signs of loadings have been adjusted so that positive loadings refer to "desirable" ends of scales (as named in tables). Negative loadings refer to opposite end of scale from that named, (e.g., -.29 on "plays poker" means that a high score on the factor implies "does not play poker").

Table 40

COMPARATIVE ROTATED FACTOR LOADINGS, OSGOOD AND CATTELL FORMS, FACTOR I[a]

Scale No.	Scale Name	Loading	
		Osgood Form	Cattell Form
19 O	Deep	83	-
27 O	Interesting	81	-
13 J	Personal satisfaction	80	75
18 J	Valuable	77	72
29 O	Wise	76	-
34 J	Personally effective	76	52
20 C	Intelligent	-	73
22 O	Colorful	72	-
29 C	Thoughtful	-	69
28 O	Unselfish	59	-
21 O	Active	57	-
10 J	Interested in art	56	53
2 J	Individualist	56	43
31 O	Sensitive	55	-
9 J	Plays Chess	51	50
12 J	Successful	50	37
25 C	Persevering	-	48
30 O	Strong	47	-
5 J	Good Taste	44	32
35 J	Like to be	43	35
16 J	Socially Popular	41	29
15 J	Powerful in Affairs	41	28
25 O	Hot	40	-
11 J	High Social Status	39	39
28 C	Realistic about Life	-	35
30 C	Confident	-	33
31 C	Self Sufficient	-	33
23 C	Self Assertive	-	33
23 J[b]	Optimistic	33	21
6 J	Happy Home Life	29	16
32 C	Responsible	-	27
8 J	Opportunity for Advancement	25	13
19 C	Adaptable in Habits	-	20
26 C	Attentive to People	-	20
17 J	Conservative	-29	-23
4 J	Plays Poker	-28	-32

[a] See Note to Tables 40 to 43.

[b] 23-J = 23-O + 27-C.

Table 41

COMPARATIVE ROTATED FACTOR LOADINGS, OSGOOD AND CATTELL FORMS, FACTOR II[a]

Scale No.	Scale Name	Loading	
		Osgood Form	Cattell Form
1 J	Wealthy	74	78
8 J	Opportunity for Advancement	60	71
11 J	High Social Status	69	70
12 J	Successful	50	66
15 J	Powerful in Affairs	50	57
3 J	Pretty Wife	45	36
35 J	Like to be	39	44
24 O	Hard	40	-
16 J	Socially Popular	37	33
7 J	Cleancut	34	33
5 J	Good Taste	28	34
30 C	Confident	-	31
20 C	Intelligent	-	28
34 J	Personally Effective	24	27
30 O	Strong	27	-
23 C	Self Assertive	-	24
32 C	Responsible	-	24
25 C	Persevering	-	23
14 J	Plays Bridge	21	20
9 J	Plays Chess	09	21
28 O	Unselfish	-28	-
31 O	Sensitive	-37	-

[a] See Note to Tables 40 to 43.

Table 42

COMPARATIVE ROTATED FACTOR LOADINGS, OSGOOD AND CATTELL FORMS, FACTOR III[a]

Scale No.	Scale Name	Loading Osgood Form	Loading Cattell Form
33 C	Sociable	-	70
26 C	Attentive to People	-	69
24 C	Cheerful	-	69
7 J	Cleancut	26	60
23 J[b]	Optimistic	01	59
16 J	Socially Popular	34	45
6 J	Happy Home Life	39	44
30 C	Confident	-	43
32 C	Responsible	-	43
28 C	Realistic about Life	-	42
34 J	Personally Effective	07	41
19 C	Adaptable in Habits	-	40
5 J	Good Taste	24	36
4 J	Plays Poker	35	19
3 J	Pretty Wife	24	36
14 J	Plays Bridge	33	18
32 J[c]	Calm	11	33
17 J	Conservative	14	29
29 C	Thoughtful	-	28
22 C	No Emotional Problems	-	26
25 C	Persevering	-	25
13 J	Successful	20	15
15 J	Powerful in Affairs	-10	20
2 J	Individualist	-14	-29

[a] See Note to Tables 40 to 43.

[b] 23-J = 23-O + 27-C.

[c] 32-J = 32-O + 21-C.

Table 43

COMPARATIVE ROTATED FACTOR LOADINGS, OSGOOD AND CATTELL FORMS, FACTOR IV[a]

		Loading	
Scale No.	Scale Name	Osgood Form	Cattell Form
26 O	Cautious	71	-
32 J[b]	Calm	69	15
20 O	Stable	68	-
17 J	Conservative	66	64
7 J	Cleancut	55	27
33 O	Rational	39	-
6 J	Happy Home Life	36	15
16 J	Socially Popular	31	19
14 J	Plays Bridge	12	31
28 O	Unselfish	29	-
23 J[c]	Optimistic	28	22
30 O	Strong	28	-
29 O	Wise	27	-
12 J	Successful	26	01
32 C	Responsible	-	25
18 J	Valuable	20	13
1 J	Wealthy	21	02
10 J	Interested in art	-27	-18
22 O	Colorful	-25	-
25 O	Hot	-27	-
2 J	Individualist	-42	-59

[a] See Note to Tables 40 to 43.

[b] 32-J = 32-O + 21-C.

[c] 23-J = 23-O + 27-C.

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